SOCIAL SCIENCES

PUBLIC LIBRARY
AUG 4 1948
DETROIT

# INDUSTRIAL MEDICINE

Volume 17 August 1948 Number 8

# For surface infections...

FURACIN*1
SOLUBLE DRESSING
(BRAND OF NITROFURAZONE)
CONTAINS 0.2% NITROFURAZONE (5-NITRO-2-FURALDEHYDE SEMICARBAZONE) IN A WATER SOLUBLE BASE.
CAUTION: TO BE DISPENSED ONLY BY OR ON THE PRESCRIPTION OF A PHYSICIAN.
DESCRIPTION OF PRODUCT AND USES AVAILABLE TO PHYSICIANS ON REQUEST.
AN ANTIBACTERIAL PREPARATION FOR TOPICAL APPLICATION
EATON LABORATORIES, Inc.
NORWICH, NEW YORK
ONE POUND AVOIR.

***Impetigo and ecthyma usually respond rapidly*** to topical Furacin therapy. Good results have been reported in 49 of 55 cases of impetigo[1,2,3] and in several cases of impetigo about infected wounds.[4] Ecthyma responded favorably in 19 of 24 cases.[1,2] Cure of these pyodermas is often effected within eight days. Furacin N.N.R., brand of nitrofurazone, is available as Furacin Soluble Dressing and as Furacin Solution, both containing 0.2 per cent Furacin.® These preparations are indicated for topical application *in the prophylaxis or treatment of infections of* wounds, second and third degree burns, cutaneous ulcers, pyodermas and skin grafts. *Literature on request.*

**EATON LABORATORIES, INC., NORWICH, N.Y.**

**1.** Downing, J. G., Hanson, M. C. and Lamb, M.: Use of 5-Nitro-2-Furaldehyde Semicarbazone in Dermatology, J.A.M.A. *133*:299, 1947 **2.** Robinson, H. M. and Robinson, H. M., Jr.: The Comparative Values of Some New Drugs in the Pyodermas, South. M. J. *40*:409, 1947 **3.** Miller, J., Rodriquez, J. and Domonkos, A.: Evaluation of Pencillin in Topical Therapy, New York State J. Med. *47*:2316, 1947 **4.** McCollough, N. C.: Treatment of Infected War Wounds with a Nitrofuran, Indus. Med. *16*:128, 1947.

*the 10-second office dressing*

# BAND-AID®

## ADHESIVE BANDAGES

Plain Waterproof
1" x 3"

Tyro-thri-cin
Waterproof 1" x 3"

Plain "ZO"*
1" x 3"

Plain Waterproof
¾" x 3"

Mercurochrome "ZO"*
1" x 3"

*Junior Size*
Plain Waterproof ⅞" x 1½"
300 individually wrapped
sterile Adhesive Bandages

Elastic Plain "ZO"*
¾" x 2½"

*Professional Size*
Plain "ZO"* 3" x 6"
12 in carton

*All* BAND-AID Adhesive Bandages
are individually wrapped,
sterile and ready made

***Order from your dealer!***

*TRADEMARK

Johnson & Johnson

To bring the tube head under the table, simply release the lock-lever.
radiography
The counterbalanced tube arm swings around freely, safely.
Tube head passing end of table with ample clearance.
fluoroscopy
Tube now locked in fluoroscopic position, table elevated vertically.
any position from Trendelenburg to vertical
all round versatility with a single x-ray tube
manual tilting or positive motor-drive

**all this, plus the operating simplicity of automatic "monitoring"....**

**it's no wonder that**

**there are more Picker "Century" x-ray units in operation than any other similar apparatus**

Picker x-ray

The "CENTURY" 100 ma combination with the advanced MONITOR control

PICKER X-RAY CORPORATION
300 FOURTH AVENUE • NEW YORK 10

# INDUSTRIAL MEDICINE

*The Journal of Industrial Health, Occupational Medicine and Traumatic Surgery*

With which are consolidated "The Industrial Doctor" and "International Journal of Medicine and Surgery"

This magazine is published to promote sound thought upon and concerning industrial medicine and traumatic surgery. To that end it will contain articles, news items, reports, digests, and other presentations, together with editors' comments. The editorial policy is to encourage frank discussion. On this basis contributions are invited. The editors will exercise care in checking on the accuracy of data printed but in all other respects articles and opinions of which expression is allowed are the opinions of their authors—the editors reserving in all cases the right to comment on the same in the current or any subsequent issues as they may be inclined.

*Volume 17* AUGUST 1948 *Number 8*

CONTENTS

EMPLOYMENT OF CARDIACS
Howard B. Sprague, M.D. ..... 279
A SURVEY OF EATING HABITS
American Can Company, Hamilton, Ontario, Plant ..... 283
INDUSTRY'S INTEREST IN HEALTH AND SAFETY SERVICES
H. W. Schwartz ..... 287
GRADUATE TRAINING FOR INDUSTRIAL PHYSICIANS
Ronald Forbes Buchan, M.D. ..... 290
THE MEDICAL PROFESSION'S INTEREST IN HEALTH AND SAFETY SERVICES
Thomas P. Murdock, M.D. ..... 293
COMPARATIVE RELATIONSHIP OF MEDICAL, NURSING AND SAFETY PERSONNEL IN INDUSTRY
Robert T. Collins ..... 295
SAFETY
Everett W. Martin ..... 297
MEDICINE
C. W. Goff, M.D. ..... 299
GEORGE MARTIN KOBER, M.D.: HIS LIFE AND DEEDS
Robert T. Legge, M.D. ..... 301
PHOTOSENSITIZING PROPERTIES OF SOME PETROLEUM SOLVENTS
John E. Dunn, M.D., and Frederick S. Brackett ..... 303
WHO'S WHO IN INDUSTRIAL MEDICINE
Profile of William Alfred Sawyer ..... 309
ASSOCIATION NEWS ..... 316
NEWS, COMMENT, OPINION ..... 319
LETTERS ..... 322
EDITORIAL:
"To Albert Stanley Gray, M.D." ..... 323
"Each in His Separate Star" ..... 323
Dewey on Socialized Medicine ..... 324
PERSONAL NEWS ..... 4
INDUSTRIAL HEALTH AND DISEASE ..... 18
DR. PILGRIM ..... 20
(ADVERTISERS INDEX ..... 41)

[NOTE: The opinions expressed in the editorials of this Journal are not to be considered as necessarily representing the opinions of any associated organizations.]

INDUSTRIAL MEDICINE, The Journal of Industrial Health, Occupational Diseases and Traumatic Surgery. Entered as second class mail matter August 28, 1941, at the Post Office at Chicago, Illinois, under the Act of March 3, 1879. Additional entry at Sheboygan, Wisconsin. Published on the fifth of each month by INDUSTRIAL MEDICINE PUBLISHING COMPANY, Chicago (publishers also of INDUSTRIAL NURSING, issued monthly, and AMERICAN INDUSTRIAL HYGIENE ASSOCIATION QUARTERLY). STEPHEN G. HALOS, President; A. D. CLOUD, Publisher; C. O. SAPPINGTON, M.D., DR. P.H., Editor; CHARLES DRUECK, JR., Secretary and Treasurer; STEPHEN G. HALOS, Advertising and Business Manager. Member, Audit Bureau of Circulations. PUBLICATION, EDITORIAL and EXECUTIVE OFFICES: 605 North Michigan Avenue, Chicago 11, Illinois. Subscription $5.00 per year in the United States; $5.50 per year in Canada; $6.00 per year in other countries. Single copies 75 cents. Title Registered in United States Patent Office. Copyright, 1948, by Industrial Medicine Publishing Company, Chicago.

CHANGE OF ADDRESS: FOUR weeks' notice required; changes cannot be made without old address as well as new; please furnish postal zone number for new address if city requires it.

INDUSTRIAL AND RAILWAY MEDICAL AND SURGICAL ASSOCIATIONS

# INDUSTRIAL MEDICINE

*is the official publication of these organizations but is independently owned and published*

## AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS

### OFFICERS

**President:**
HAROLD A. VONACHEN, M.D.,
Caterpillar Tractor Company,
Peoria, Illinois.

**President-Elect:**
ALFRED H. WHITTAKER, M.D.,
Consultant in Industrial Surgery,
Detroit, Michigan.

**First Vice-President:**
EDWARD H. CARLETON, M.D.,
Inland Steel Company,
East Chicago, Indiana.

**Second Vice-President:**
ADOLPH G. KAMMER, M.D.,
Carbide & Carbon Chemicals Corp.,
South Charleston 3, West Virginia.

**Secretary:**
FREDERICK W. SLOBE, M.D.,
2024 S. Western Avenue,
Chicago 8, Illinois.

**Treasurer and Managing Director:**
EDWARD C. HOLMBLAD, M.D.,
28 East Jackson Boulevard,
Chicago 4, Illinois.

### DIRECTORS
1947-1949

LOUIS R. DANIELS, M.D.,
Hood Rubber Company,
Watertown, Massachusetts.

ALLAN J. FLEMING, M.D.,
Haskell Laboratories of
Industrial Toxicology,
Wilmington, Delaware.

ROBERT M. GRAHAM, M.D.,
The Pullman Company,
79 East Adams Street,
Chicago 3, Illinois.

L. E. HAMLIN, M.D.,
American Brake Shoe Company,
2501 Blue Island Avenue,
Chicago 8, Illinois.

E. A. IRVIN, M.D.,
Cadillac Motor Division,
General Motors Corporation,
Detroit 32, Michigan.

F. E. POOLE, M.D.,
Lockheed Aircraft Corporation,
Rexall Drug Company,
702 West Broadway,
Glendale 4, California.

### DIRECTORS
1948-1950

J. M. CARLISLE, M.D.,
Merck & Company,
Rahway, New Jersey.

HAROLD M. HARRISON, M.D.,
Medical Director,
George Weston, Ltd.,
Toronto, Ontario, Canada.

EDWARD P. HELLER, M.D.,
Kansas City Industries,
Kansas City, Missouri.

EARL F. LUTZ, M.D.,
General Motors Corporation,
Detroit, Michigan.

ROBERT COLLIER PAGE, M.D.,
Standard Oil Co. (New Jersey),
New York City.

GEORGE F. WILKINS, M.D.,
New England Telephone &
Telegraph Co.,
Boston, Massachusetts.

### DISTRICT COUNSELLORS
1948-1949

"A"—MELVIN N. NEWQUIST, M.D., — Maine, Vermont, Connecticut, New Hampshire, Massachusetts, Rhode Island, New York, New Jersey.

"B"—G. F. TIMBERLAKE, M.D.—Virginia, Tennessee, Kentucky, North Carolina, South Carolina, Georgia, Alabama, Florida, Mississippi.

"C"—ALFRED H. WHITTAKER, M.D. — Michigan, Indiana, Ohio, Pennsylvania, West Virginia.

"D"—H. GLENN GARDINER, M.D.—Minnesota, Illinois, Missouri, Iowa, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Wisconsin.

"E"—V. C. BAIRD, M.D.—Colorado, New Mexico, Texas, Oklahoma, Arkansas, Louisiana.

"F"—RICHARD C. SCHOFIELD, M.D.—Arizona, Utah, Nevada, Idaho, Oregon, Washington, California.

"G"—FRANK R. GRIFFIN, M.D.—Canada.

## NEWS

DR. DONALD F. BUCHAN, a specialist in industrial medicine and former faculty member of Yale University School of Medicine, has been appointed Associate Medical Director of the Prudential Life Assurance Society. DR. BUCHAN, a native of Concord, New Hampshire, graduated from the University of New Hampshire in 1936 and received his medical degree from McGill University at Montreal four years later. He entered the U. S. Public Health Service in 1943 and for a time was assigned to the office of the Surgeon General of the Army as a specialist in industrial toxicology and dermatology.

DR. JAMES A. CRABTREE has joined the staff of the National Security Resources Board as the Director of its Medical

### COMMITTEES
1948-1949

**Certification Committee:**
FREDERICK W. SLOBE, M.D., Chairman, ANTHONY J. LANZA, M.D., EARL F. LUTZ, M.D., RAYMOND HUSSEY, M.D., ROBERT A. KEHOE, M.D., T. LYLE HAZLETT, M.D.

**Committee on Alcoholism:**
GEORGE H. GEHRMANN, M.D., Chairman, JOHN L. NORRIS, M.D., EMMETT B. LAMB, M.D.

**Convention (1949) Committee:**
ALFRED H. WHITTAKER, M.D., Chairman, EARL A. IRVIN, M.D., EARL F. LUTZ, M.D., A. L. BROOKS, M.D., HARLEY L. KRIEGER, M.D., JOHN J. PRENDERGAST, M.D., F. B. MACMILLAN, M.D.

**Foundation Fund Committee:**
EDWARD H. CARLTON, M.D., Chairman, HARLEY L. KRIEGER, M.D., SAMUEL T. HELMS, M.D., JOHN W. HILBERT, M.D., A. W. LESCOHIER, M.D.

**Health Achievement in Industry Award:**
C. RICHARD WALMER, M.D., Chairman, JAMES CARLISLE, M.D., L. A. WHITTAKER, M.D., FREDERICK SHILLITO, M.D., JOHN NEILSON, JR., M.D.

**History Committee:**
ALFRED H. WHITTAKER, M.D., Chairman, LOYAL A. SHOUDY, M.D., OTTO P. GEIER, M.D.

**Knudsen Award Committee:**
T. LYLE HAZLETT, M.D., Chairman, ROY R. SAYERS, M.D., OSCAR SANDER, M.D.

**Medical Education & Graduate Fellowship:**
M. H. KRONENBERG, M.D., Chairman, WILLIAM SAWYER, M.D., WILLIAM LAUTEN, M.D., RONALD F. BUCHAN, M.D., LEONARD J. GOLDWATER, M.D.

**Membership & Qualification Committee:**
E. A. IRVIN, M.D., Chairman, NEWTON E. LEYDA, M.D., JOHN F. SHRONTS, M.D., L. HOLLAND WHITNEY, M.D.

**Meritorious Award Committee:**
DANIEL L. LYNCH, M.D., Chairman, C. O. SAPPINGTON, M.D., WILLIAM SAWYER, M.D., CAREY P. MCCORD, M.D., EDWARD C. HOLMBLAD, M.D., CHAS. F. SHOOK, M.D.

**Past-President Committee:**
HENRY S. BROWN, M.D., Chairman, CLARENCE SELBY, M.D., T. LYLE HAZLETT, M.D., JOHN J. WITTMER, M.D.

**Public Relations Committee:**
CHARLES E. DUTCHESS, M.D., Chairman, R. LOMAX WELLS, M.D., ALLAN J. FLEMING, M.D., C. O. SAPPINGTON, M.D.

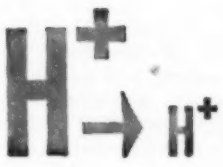
**Publications & Editorial Committee:**
ROBERT COLLIER PAGE, M.D., Chairman, REEVES M. BROWN, M.D., RUSSELL C. KIMBALL, M.D., L. S. ARLING, M.D., J. HUBER, WAGNER, M.D.

**Tuberculosis Committee**
LEO PRICE, M.D., Chairman,

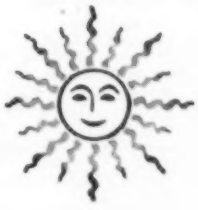
**Workmen's Compensation & Insurance:**
CARL T. OLSON, M.D., Chairman, J. S. CHALMERS, M.D., T. W. NALE, M.D., BENJAMIN M. FREES, M.D., JOHN E. CALDWELL, M.D.

TĪTRALAC

This unique antacid provides prompt and prolonged



relief from distress due to gastric hyperacidity



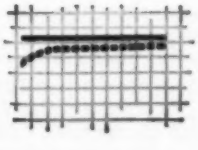
without untoward effects, even in excessive doses.

One pleasant-tasting TĪTRALAC tablet is

equivalent in acid-neutralizing power to

an eight ounce glass of fresh milk.

Each tablet contains 0.15 gm. glycine plus 0.35 gm. calcium carbonate to provide . . .



a titration curve comparable to that of fresh milk.

TĪTRALAC

Supplied in bottles of 100 tablets.

**Schenley Laboratories, inc.**

350 fifth avenue, new york 1

© Schenley Laboratories, Inc.

### New England Conference of Industrial Physicians and Surgeons

**Officers**

J. ROBERTSON KNOWLES, M.D., President
Medical Director, Boston & Maine,
North Station Building, Boston.

DONALD V. BAKER, M.D., Vice-President
Medical Director, Lever Bros.,
40 Broad Street, Boston, Mass.

J. ALLAN THOMPSON, M.D., Secretary & Treasurer
Medical Officer, New England Tel. & Tel. Co.,
245 State Street, Boston, Mass.

**Board of Directors**

JAMES I. ROBERTS, M.D.,
Medical Director New England Power Service Co.,
441 Stuart Street, Boston, Mass.

KARL T. BENEDICT, M.D.,
111 Worcester Street, West Boylston, Mass.

TIMOTHY F. ROCK, M.D.,
Nashua Manf. Co.,
77 Main Street, Nashua, N. H.

CHARLES L. FARRELL, M.D.,
Plant Physician, Owens Corning Fiberglas Corp.
166 Pawtucket Avenue,
Pawtucket, R. I.

C. F. YEAGER, M.D.,
Chairman Committee of Industrial Health,
178 Jackman Ave., Bridgeport, Conn.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Rhode Island Society of Industrial Physicians and Surgeons

**Officers**

President
RICHARD F. McCOART, M.D.,
Universal Winding Company,
Cranston.

Vice-President
THOMAS A. EGAN, M.D.,
New Haven Railroad, Providence.

Secretary
JAMES P. DERRY, M.D.,
Division of Industrial Hygiene,
State Department of Health,
Providence.

Treasurer
ROBERT T. HENRY, M.D.,
Newman Crosby Company,
Pawtucket.

**Board of Directors**

FRANK A. FERLIANO, M.D.,
Providence Tuberculosis League,
Division of Industrial Tuberculosis,
State of Rhode Island, Providence.

REMINGTON P. CAPWELL, M.D.,
Whittet-Higgins Co., Providence

EDWARD F. DOUGHTERTY,
Liberty Tool and Gauge Co.,
Providence.

JOSEPH C. JOHNSTON, M.D.,
Texas Company, Providence.

CHARLES L. FARRELL, M.D.,
Collyer Insulated Wire Co.,
Pawtucket.

**Section of the New England Conference of Industrial Physicians and Surgeons.**

### Association of Railway and Industrial Physicians and Surgeons of Kansas City

**Officers**

CARL M. LINDQUIST, M.D., President
VINCENT T. WILLIAMS, M.D., Vice-Pres.
HORACE F. FLANDERS, Secretary-Treas.

**Directors**

JOHN E. CASTLES, M.D.
F. L. FEIERABEND, M.D.
VINCENT T. WILLIAMS, M.D.

Delegate to A.A.I.P. & S. Convention:
E. P. HELLER, M.D.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

Division. DR. CRABTREE will serve on loan from his regular position as Deputy Surgeon General of the U. S. Public Health Service. A native of Greenfield, Tennessee, DR. CRABTREE is a graduate of the University of Tennessee, with both B.S. and M.D. degrees. He is also a graduate of the School of Hygiene and Public Health of Johns Hopkins University, with a Dr. P.H. degree. He has been engaged in public health work since 1926, with the exception of two years spent at Johns Hopkins. Until 1934 he was associated with the Tennessee State Health Organization, after which for four years he was Associate Director of Health and Safety of the Tennessee Valley Authority. He entered the commissioned corps of the U. S. Public Health Service in 1938, where his first assignment was in the National Cancer Institute. He served as Executive Secretary of the Health and Medical Committee, an organization established by the National Defense Council in the early days of World War II to mobilize the health and medical resources of the nation. Later he served as medical consultant to the War Production Board and the Lend Lease Administration. While serving as Medical Director for the Office of Foreign Relief and Rehabilitation Operations, he developed the preliminary plans and agenda for the health organization which was created under UNRRA, the successor organization. He was appointed Deputy Surgeon General in September, 1946.

DR. GORDON A. SINCLAIR, a graduate of the University of Toronto, has been appointed Physician-in-Charge of the Medical Center of the Toronto offices of the Imperial Oil Company, Ltd. DR. SINCLAIR served overseas in the Royal Canadian Army Medical Corps as Deputy Assistant Director of Medical Services for the 1st Canadian Infantry Division. In January 1942, he was promoted to rank of Colonel and appointed Assistant Director of Medical Services for the First Canadian Army. Subsequently, he achieved the rank of Brigadier and served as Senior Canadian Medical Officer in the Italian Theater of Operations. Prior to his retirement from the Army, he acted as Senior Canadian Medical Officer in northwest Europe. In February 1946, he re-

The Industrial Doctor
Now combined with
INDUSTRIAL MEDICINE

### New York State Society of Industrial Medicine, Inc.

**Officers**

RUSSELL C. KIMBALL, M.D., *President*
—Consolidated Edison Co.,
4 Irving Place, New York.

PHILIP L. FORSTER, M.D., *Vice-President*
—367 State St., Albany.

IRVING GRAY, M.D., *Secretary*
—25 Plaza St., Brooklyn.

JOHN J. BLACKFORD, *Executive Secretary* and *Treasurer*.
—40 East 51st St., New York.

**Executive Council**

HALCYON HALSTED, M.D.,
Pelham Manor.

FRANCIS J. RYAN, M.D.,
Syracuse.

CHARLES D. SQUIRES, M.D.,
Binghampton.

ANTHONY AVATA, M.D., New York,
Hartford Accident and Indemnity Co.

HARRY V. SPAULDING, M.D., New York,
General Accident Co.

CHRISTOPHER STRAHLER, JR., M.D.,
Albany.

REEVE M. BROWN, M.D.,
Buffalo

JOHN J. WITTMER, M.D., New York,
Consolidated Edison Co.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### New Jersey Association of Industrial Physicians and Surgeons

**Officers**

A. F. MANGELSDORFF, M.D., President.
—Calco Chemical Div., Bound Brook.

A. GIBSON, M.D., Vice-President.
—Merck & Co., Inc., Rahway.

E. W. PROBST, M.D., Secretary.
—E. I. du Pont deNemours Co., Arlington.

J. M. WETHERHOLD, M.D., Treasurer.
—E. I. du Pont deNemours Co., Deepwater.

**Directors**

DONALD O. HAMBLIN, M.D.,
American Cyanamid Co.,
89 Rockefeller Plaza, New York City.

J. M. CARLISLE, M.D.,
Merck & Co., Inc., Rahway.

E. E. EVANS, M.D.,
E. I. du Pont deNemours,
Dye Works Hospital, Deepwater.

WM. H. McCALLION, M.D., F.A.C.S.,
General Aniline Co., Elizabeth.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Michigan Association of Industrial Physicians and Surgeons

**Officers**

E. A. IRVIN, M.D., President,
2660 Clark Avenue,
Detroit, Michigan.

K. E. MARKUSON, M.D., President-Elect,
532 Division Street,
East Lansing, Michigan.

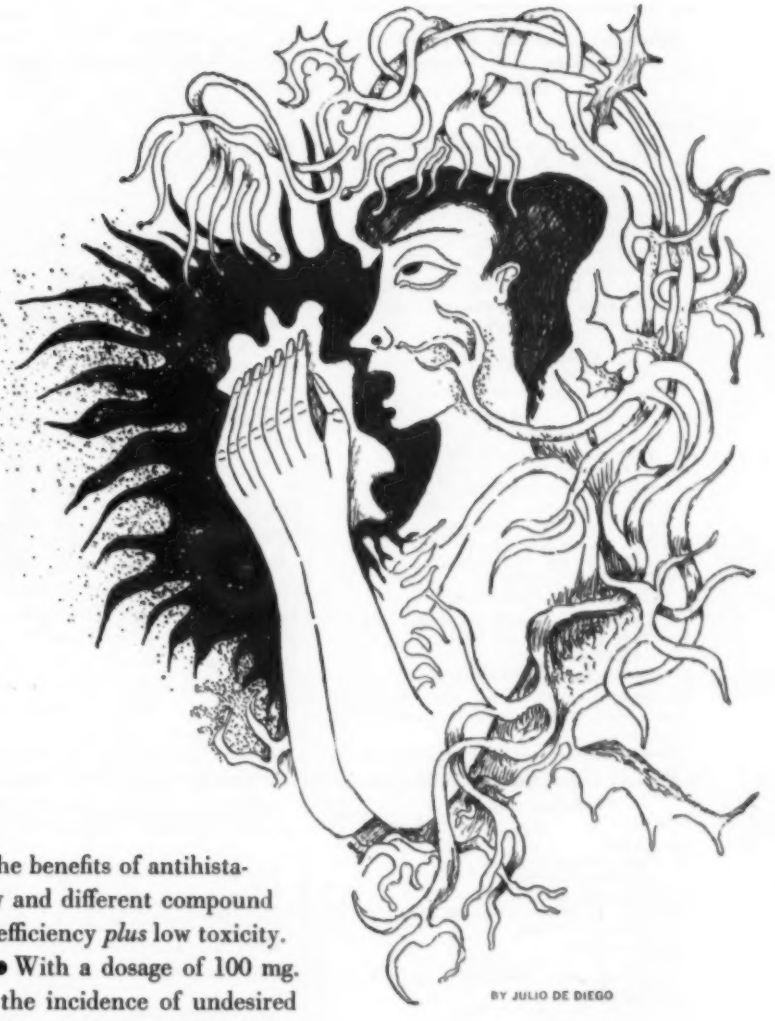
JOSEPH L. ZEMENS, M.D., Sec.-Treas.,
1580 E. Grand Boulevard,
Detroit 32, Michigan.

**Board of Directors**

CLARENCE D. SELBY, M.D., Detroit.
LEON E. SEVEY, M.D., Grand Rapids.
A. L. BROOKS, M.D., Detroit.
J. D. MILLER, M.D., Grand Rapids.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

# there'll be less sneeze-mist this season



BY JULIO DE DIEGO

And many more hay fever victims will enjoy the benefits of antihistamine therapy this season . . . there's a new and different compound which already has an impressive record of efficiency *plus* low toxicity. The name is THENYLENE Hydrochloride. ● With a dosage of 100 mg. of THENYLENE in a large series of cases, the incidence of undesired reactions was only about 25 percent, and in practically all instances a reduction in dosage to 50 mg. obviated the side-effects.[1] Another study, in which this compound was used, reported that with doses totaling 200 mg. per day, subjective toxic symptoms were usually absent; if they appeared, they frequently did not persist when medication was continued.[2] Still another investigator emphasized that, with THENYLENE, unpleasant side-effects were surprisingly few.[3] Thus, THENYLENE is safe—safe to try in every case of allergic management. ● For severe symptoms, prescribe THENYLENE in doses of 100 mg. three or four times daily; as a maintenance dose or for mild symptoms, 25 to 50 mg. It is recommended that antihistamine drugs be used with specific desensitization wherever possible. ● Your pharmacy can supply you with THENYLENE Hydrochloride in sugar coated tablets of three sizes, 25 mg., 50 mg. and 0.1 Gm. (100 mg.), in bottles of 100 and 500. For a FREE SAMPLE and further information on THENYLENE, just drop a card to ABBOTT LABORATORIES, North Chicago, Ill.

*1. Friedlaender, A. S., Friedlaender, S., Amer. J. Med. Sc., in press. 2. Peirce, J. D., Mothersill, M. H. (1947), Treatment of Allergic Symptoms with a New Antihistamine Drug, J. Ind. Sta. Med. Assn., 40:739, August. 3. Brunsting, L. A. (1948), Recent Advances in Dermatology and Syphilology, Canadian Med. Assn. J., 58:133, February*

*Prescribe*

ABBOTT'S NEW ANTIHISTAMINIC

**Thenylene®**

*Hydrochloride*

(Methapyrilene Hydrochloride, Abbott)

### Western Association of Industrial Physicians and Surgeons

**Officers**

President
JEROME SHILLING, M.D.,
Los Angeles 14, California.
Vice-President
JOHN R. ERWIN, M.D.,
Medical Director,
Boeing Aircraft Corp.,
Seattle 14, Washington.
Secretary
CHRISTOPHER LEGGO, M.D.,
Medical Director, California & Hawaiian Sugar Refining Corp., Ltd.
Crockett, California.
Treasurer
JOHN E. KIRKPATRICK, M.D.,
516 Sutter St.,
San Francisco, California.

**Directors**

E. P. LUONGO, M.D.—1949
Hollywood 46, California.
LOUIS D. CHENEY, M.D.—1950
Los Angeles 54, California.
RODNEY R. BEARD, M.D.—1951
Pan American Airways,
San Francisco 19, California.
FENN E. POOLE, M.D.—1952
702 W. Broadway,
Glendale 4, California.

**Chairman, Board of Directors**

WILLIAM P. SHEPARD, M.D.,
600 Stoekton St.,
San Francisco, California.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Central States Society of Industrial Medicine and Surgery

**Officers**

President
D. ORIS CONLEY, M.D.,
Streator, Illinois.
President-Elect
THOMAS C. BROWNING, M.D.,
Chicago, Illinois.
Vice-President
EMMETT B. LAMB, M.D.,
Indianapolis, Indiana.
Secretary-Treasurer
FRANK P. HAMMOND, M.D.,
Chicago, Illinois.

**Board of Governors**

1949—H. W. WELLMERLING, M.D.,
Bloomington, Ill.
OSCAR A. SANDER, M.D.,
Milwaukee 3, Wis.
JOSEPH H. THOMAS, M.D., Chicago.
1950—MELVIN L. HOLE, M.D., Danville,
B. B. REEVE, M.D., Chicago.
WILLIAM G. BESSMER, M.D.,
Davenport, Iowa.
1951—ROBERT M. GRAHAM, M.D., Chicago.
JAMES J. CALLAHAN, M.D.,
Chicago, Ill.
DONALD C. CONZETT, M.D.,
Dubuque, Iowa.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Territorial Association of Plantation Physicians

**Officers**

President
H. M. CHANDLER, M.D.,
Waipahu, Oahu, T. H.
Vice-President
WM. PATTERSON, M.D.,
Puunene, Maui, T. H.
Secretary-Treasurer
FRANK HATLELID, M.D.,
Waialua, Oahu, T. H.
Executive Secretary
DORIS LARSON,
1133 Punchbowl,
Honolulu, T. H.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

turned to Canada, was appointed to the Christie Street Hospital, and resumed his activities in Internal Medicine at Toronto General Hospital.

THREE members of the medical staff of Standard Oil Company (New Jersey) have been appointed to the faculty of the New York University Institute of Industrial and Social Medicine. DR. ROBERT C. PAGE, General Medical Director, received appointment as Associate Clinical Professor, DR. J. P. HOLT, Director of Research, also was appointed Associate Clinical Professor, and DR. K. VIGORS EARL was appointed Lecturer on Preventive Medicine.

## General Motors

DR. MAHLON R. SUTTON, Medical Director of Buick Motor Division, who completed 32 years of service with the Division, retired on June 30, 1948. The Flint General Motors doctors gave a luncheon in his honor and, in the evening, over 200 members of the Management group of the Buick Motor Division were present at a reception and dinner. A fine boat was presented to the doctor as a token of their esteem.

DR. R. S. VAN HARN was appointed on July 1, 1948, to succeed DR. MAHLON R. SUTTON as Medical Director at Buick Motor Division, Flint, Michigan.

A FIRST for New Departure: On July 1, 1948, the General Motors Physician-in-Training Program got off to a good start. DR. JOHN M. LYNCH began his in-plant residency at New Departure Division, Bristol, Connecticut, under the direction of DR. PRESTON N. BARTON, and in cooperation with the Yale Institute for Industrial Medicine and Hygiene.

AND ONE for Chevrolet: At the same time DR. HANS F. KIPPING began his in-plant residency at Chevrolet-Tonawanda, Tonawanda, New York, under the direction of DR. REEVE M. BROWN and in cooperation with the Millard Fillmore Hospital, Buffalo, New York.

DR. L. J. BERG, Medical Director of Chevrolet-Tarrytown, has a hobby of collecting press books. He has been doing this for over 10 years and has an outstanding collection.

### Florida Association of Industrial and Railway Surgeons

**Officers**

President
FREDERICK H. BOWEN, M.D.,
2000 Park St., Jacksonville, Fla.
Vice-President
P. J. MANSON, M.D.,
8037 N.E. 2nd Ave., Miami, Fla.
Secretary-Treasurer
JOHN H. MITCHELL, M.D.,
241 W. Ashley, Jacksonville, Fla.

**Directors**

F. D. GRAY, M.D., Orlando, Fla.
K. A. MORRIS, M.D., Jacksonville, Fla.
F. A. VOGT, M.D., Miami, Fla.
L. J. NETTO, M.D., West Palm Beach, Fla.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Association of Mine Physicians

**Officers**

GEO. W. EASLEY, M.D., President
Williamson, West Virginia
E. M. HOWARD, M.D., Vice-President
Harlan, Kentucky
J. C. LAWSON, M.D., Secretary-Treasurer
Williamson, West Virginia
W. R. LUNDY, Executive Secretary
Offices: Williamson, W. Va.
Pineville, Ky.

**Committee on Organization**

R. O. ROGERS, M.D., Chairman,
Bluefield, W. Va.
C. L. HARSHBARGER, M.D., Norton, Va.
CARL E. AUSMUS, M.D., Jellico, Tenn.
J. A. BENNETT, M.D., Algoma, W. Va.
J. C. MOORE, M.D., Keen Mountain, Va.
T. M. PERRY, M.D., Jenkins, Ky.
P. E. BLACKBERRY, M.D., Louisville, Ky.
CARL A. GROTE, M.D., Huntsville, Ala.
C. N. CARRAWAY, M.D., Birmingham, Ala.

**Component Society of the American Association of Industrial Physicians and Surgeons.**

### Chicago Society of Industrial Medicine and Surgery

**Officers**

FELIX JANSEY, M.D., Chicago,
President.
BURTON C. KILBOURNE, M.D., Chicago,
Vice-President.
FRANK P. HAMMOND, M.D., Chicago,
Secretary-Treasurer.

**Board of Governors**

Terms to Expire 1951.
DWIGHT I. GEARHART, M.D., Chicago.
JOHN R. MERRIMAN, M.D., Evanston.
CHARLES DRUECK, M.D., Chicago.
Terms to Expire 1949.
J. DANIEL WILLEMS, M.D., Chicago.
T. R. HINCHION, M.D., Chicago.
CLARENCE W. HENNAN, M.D., Chicago.
Terms to Expire 1950.
KARL G. RUNDSTROM, M.D., Chicago.
GEORGE W. BOHR, M.D., Chicago.
GERALD J. FITZGERALD, M.D., Chicago.

### Milwaukee Association of Industrial Physicians and Traumatic Surgeons

**Officers**

President
S. H. WETZLER, M.D.,
606 W. Wisconsin Ave., Milwaukee.
Vice-President
ELSTON L. BELKNAP, M.D.,
231 W. Wisconsin Ave., Milwaukee.
Secretary-Treasurer
GEORGE H. HOFFMANN, M.D.,
7006 W. Greenfield Ave., Milwaukee.

**Board of Directors**

U. E. GERHARD, M.D.,
1332 S. 16th Street, Milwaukee.
H. G. OAKLAND, M.D.,
1651 N. 12th Street, Milwaukee.
EDWARD QUICK, M.D.,
411 E. Mason St., Milwaukee.
DAVID MEHIGAN, M.D.,
231 W. Wisconsin Ave., Milwaukee.

THE DIRECTORS OF

*Nutrition Research Laboratories*

TAKE PLEASURE IN ANNOUNCING THE ORGANIZATION OF

# Whittier

LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES

as the manufacturing and marketing organization, effective August 1, 1948, for the distribution of their ethical pharmaceuticals, including

**ERTRON®** *STEROID COMPLEX, WHITTIER* • antiarthritic therapy

**INFRON®** *VITAMIN D, WHITTIER* • once-a-month rickets prophylaxis

**BEZON®** *WHOLE VITAMIN B COMPLEX WITH C* • for vitamin deficiencies

**PENDARVON®** *PALATABLE PROTEIN SUPPLEMENT* • for nutritional deficiencies

This development will enable the parent organization, Nutrition Research Laboratories, to devote its personnel and facilities more fully to research in the basic medical sciences.

The name Whittier Laboratories honors Charles C. Whittier, one of our founders and inventor of the Whittier Process, long used in the production of Ertron and other products of Nutrition Research Laboratories.

Whittier

LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES • CHICAGO 30

## ★ AMERICAN ASSOCIATION OF RAILWAY SURGEONS ★

### *Officers*

*President:*
JAMES E. M. THOMSON, M.D., Lincoln, Nebraska

*Vice-Presidents:*
JAMES W. DAVIS, M.D., Statesville, North Carolina
RICHARD A. SUTTER, M.D., St. Louis, Missouri
CHESTER GUY, M.D., Chicago, Illinois

*Treasurer:*
THEODORE L. HANSEN, M.D., 139 West Van Buren, Chicago 5, Wabash 3200, Ext. 220

*Secretary:*
RAYMOND B. KEPNER, M.D., 547 West Jackson, Chicago 6, Wabash 2345, Ext. 475

### *Executive Board*

ARTHUR R. METZ, M.D., Chairman, Chicago, Illinois
J. ROSCOE MILLER, M.D., Chicago, Illinois
MILTON B. CLAYTON, M.D., Washington, D. C.
ROBERT M. GRAHAM, M.D., Chicago, Illinois
ALEXANDER M. W. HURSH, M.D., Philadelphia, Pa.
WILLIAM W. LEAKE, M.D., Chicago, Illinois

*59th Annual Meeting, November 21, 22, 23, 1948, at the Palmer House, Chicago*

## INDUSTRIAL MEDICAL AND RELATED ORGANIZATIONS

**Aero Medical Association of the United States; Secretary: DR. D. S. BRACHMAN, 1016 Dime Bldg., Detroit 24.**

**American Academy of Occupational Medicine; Secretary, JAMES J. CARLISLE, M.D., 550 Hillcrest, Westfield. N. J.**

**American Association for the Advancement of Science, 1515 Massachusetts Ave. N.W. Washington, 5, D. C. September 13-17, 1948.**

**American Association of Industrial Dentists, 4604 South helsea Lane, Bethesda 14, Maryland. V. J. FORNEY, D.D.S., Secretary-Treasurer.**
**Early April, 1949; Detroit.**

**American Association of Industrial Nurses, 654 Madison Ave., New York 21, N. Y. GLADYS L. DUNDORE, R.N., Executive Secretary.**
**Early April, 1949; Detroit.**

**American Association of Industrial Physicians & Surgeons, 28 East Jackson Blvd., Chicago 4, Ill. EDWARD C. HOLMBLAD, M.D., Managing Director and Treasurer.**
**Early April, 1949; Detroit.**

**American Association of Railway Surgeons, 547 West Jackson Blvd., Chicago 6, Ill. R. B. KEPNER, M.D., Secretary. November 21-23, 1948; Palmer House, Chicago.**

**American Chemical Society, 1155 Sixteenth St. N.W., Washington 6, D. C. A. H. EMERY, Secretary.**

**American College of Physicians, 4200 Pine St., Philadelphia 4, Pa. E. R. LOVELAND, Secretary.**

**American College of Surgeons, 40 East Erie St., Chicago 11, Ill.**

**American Conference of Governmental Industrial Hygienists, U. S. Public Health Service, Washington, D. C. J. J. BLOOMFIELD, Secy-Treas.**
**Early April, 1949; Detroit.**

**American Industrial Hygiene Association, 4400 Fifth Ave., Pittsburgh 13, Pa. HENRY F. SMYTH, JR., Executive Secy. Early April, 1949; Detroit.**

**American Medical Association, Council on Industrial Health, 535 North Dearborn St., Chicago 10, Ill. CARL M. PETERSON, M.D., Secretary.**

DR. EUGENE F. CAREY, Assistant to DR. W. D. TILLSON, Medical Director of Electro-Motive Division, LaGrange, Illinois, has recently been installed as President of the Englewood Branch of the Chicago Medical Society.

DR. H. B. FREDERICKS has been appointed Plant Physician of the New Departure Division in Sandusky, Ohio. He will replace DR. FRANCES FRY who has resigned to devote his full time to cardiology and private practice.

DR. A. K. DROZ has been appointed Medical Director at the Chevrolet and Fisher Body Assembly Divisions in Van Nuys, California.

DR. JOHN FREDERICK GRANT and DR. ROBERT WARREN MCCONNELL were recently appointed to the medical staff of Frigidaire Division on a part-time basis.

THE PLANT CITY Committee in Saginaw has announced the establishment of an Industrial Medical Library at the Saginaw General Hospital. This idea was inaugurated by DR. JOHN MANNING, Medical Director of the Saginaw Steering Gear Division, and has the hearty support of the other General Motors Medical Directors.

### Research Advisory Council

NDUSTRIAL Hygiene Foundation has a Research Advisory Council. Members are THEODORE F. HATCH, Secy.; W. A. HAMOR, Sc.D.; T. LYLE HAZLETT, M.D.; A. J. LANZA, M.D.; WILLARD MACHLE, M.D.; W. P. YANT, Sc.D.; R. E. ZIMMERMAN, Sc.D.

**American Medical Association, 535 North Dearborn St., Chicago 10, Ill. GEORGE F. LULL, M.D., Secretary & General Manager.**
**Interim Session, November 30-December 3; St. Louis.**

**American Public Health Association, 1790 Broadway, New York 19, N. Y. REGINALD M. ATWATER, M.D., Executive Secretary.**
**November 8-12, 1949; Boston.**

**Association for the Surgery of Trauma.**

**Canadian Public Health Association, Vancouver, B. C., Canada.**

**Council on Industrial Health, American Medical Association; Secretary: CARL M. PETERSON, M.D., 535 N. Dearborn St., Chicago 10.**

**Industrial Hygiene Foundation of America, 4400 Fifth Ave., Pittsburgh 13, Pa. JOHN F. MCMAHON, Managing Director.**
**November 17-19, 1948; Pittsburgh.**

**International Association of Industrial Accident Boards & Commissions, MARSHALL DAWSON, U. S. Dept. of Labor, Washington, D. C., Secy-Treas.**
**September 12-18; New York.**

**Lead Industries Association, 420 Lexington Ave., New York 17, N. Y. ROBERT L. ZIEGFELD, Secretary-Treasurer.**
**November 15-16; Chicago.**

**National Council on Rehabilitation; Secretary-Treasurer: MR. HOLLAND HUDSON, 1790 Broadway, New York 19.**

**National Metal Congress, Philadelphia.**
**October 25-28; Philadelphia.**

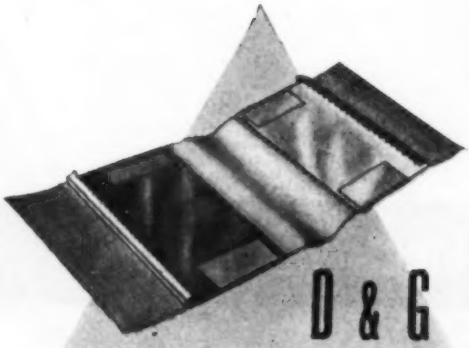
**National Rehabilitation Association, 411-7th Ave., Nashville 4, Tenn. LOUIS R. SCHUBERT.**
**December 6-10, 1948; Madison, Wis.**

**National Safety Council, 20 North Wacker Drive, Chicago 6, Ill. NED H. DEARBORN, President; CARMEN FISH, Secretary.**
**October 18-22; Chicago.**

**National Tuberculosis Association, 1790 Broadway, New York 19, N. Y. H. STUART WILLIS, Secretary.**

**Saranac Laboratory of Edward L. Trudean Foundation, 7 Church Street, Saranac Lake, N. Y. ARTHUR J. VORWALD, M.D., Director.**

*Announcing*



# D&G TRACTACLIP

Traction is supplied by a sheet of latex connecting two metal members which grip the skin by means of fine-toothed edges, providing firm anchorage with minimal discomfort. TRACTACLIP can be readily removed for wound inspection.

- a wound approximator that exerts a gentle, continuous traction on the edges of gaping wounds. It enables the surgeon to effect, through this traction, the desired approximation of tissues. Some of the various uses of TRACTACLIP* Wound Approximator are...
- as an emergency dressing to reduce bleeding and secondary contamination.
- to narrow the gap gradually and help replace lost skin by elongating the skin on either side of the wound.
- to prevent retraction of skin's edges while a contaminated wound is being prepared for secondary closure.
- to relieve traction on skin sutures when the wound has been closed under tension.
- to reduce the area of raw surface and protect it from contact with overlying gauze.

DAVIS & GECK, INC.
BROOKLYN 1, NEW YORK
*Trade Mark

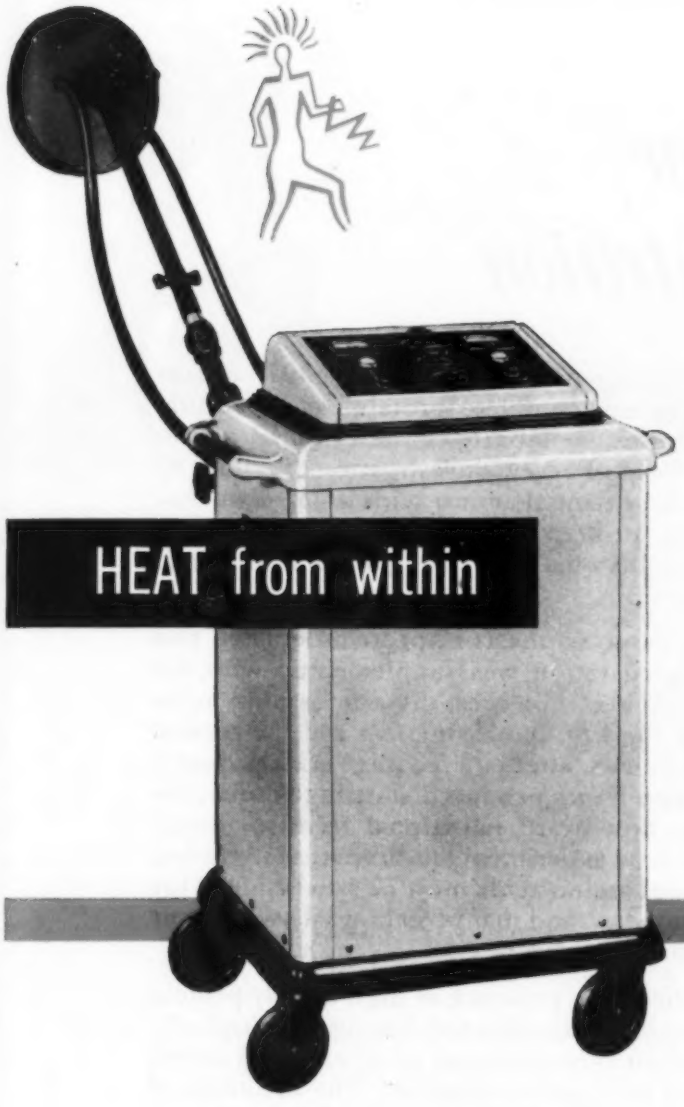
# Electrons at work ...

# that you may apply

**HEAT.** Heat from the heart of the electron. Heat from the swiftly changing flux of an electromagnetic field: induced *within* living tissue.

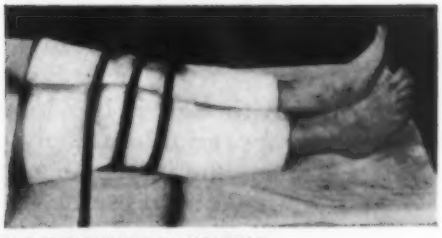
Now – a decade since General Electric X-Ray introduced the Inductotherm – the principle of induced heat and its efficiency in producing controlled hyperemia are benefiting more and more people.

In the *new* improved Inductotherm, you get *built-in* safety and simplicity. For General Electric X-Ray research and engineers have made the new Inductotherm truly a member of the G-E family of electromedical apparatus. Yes, own G-E and you own the best.

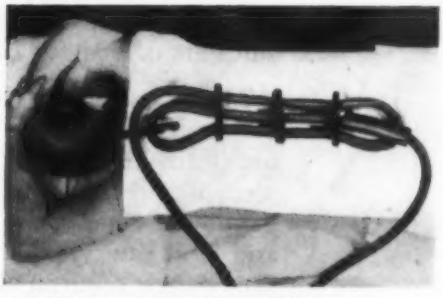


# HEAT from within

FOR SPEEDY APPLICATION



FOR EFFICIENCY IN HEATING



FOR COVERAGE OF LARGE AREAS

## *The new Inductotherm—Approved on new International frequency*

The new General Electric Model D Inductotherm has been approved by the FCC on the new International frequency of 13.56 megacycles. The Inductotherm effectively heats *by induction* vascular tissue deep within the body; produces a controlled active hyperemia.

**New Accuracy.** New Inductotherm voltage compensator permits you to standardize incoming voltage and thus more accurately control output.

**New Convenience.** Green light signals when filament reaches operating temperature; red light warns that high frequency current is on. Milliammeter provides visual indication of current intensity.

**New Dependability.** Push-buttons start and stop high frequency voltage; stand up under heavy loads; are typical of high-caliber G-E design and engineering.

Look into the new Inductotherm. It's attractive—the cabinet is a smart pearl grey. It's mobile—casters are large, easy rolling. It's dependable—created by G-E engineers, backed by G-E service. For more information, write General Electric X-Ray Corporation, Dept. H-9, 4855 W. McGeoch Avenue, Milwaukee 14, Wisc.

**GENERAL ELECTRIC X-RAY**

• *General Electric X-Ray Corporation manufactures and distributes electromedical apparatus; x-ray apparatus for medical, dental and industrial use; x-ray and electromedical supplies and accessories.*

# The Time Factor In Protein Nutrition

Although it has long been recognized that the dietary must contain appreciable amounts of biologically complete protein, only recently has the importance of simultaneous availability of the essential amino acids been established. In the light of recent investigations,* failure to provide the organism with the ten essential amino acids *at the same time* results in inability to synthesize protein, and makes positive nitrogen balance virtually impossible despite what may be regarded as adequate amounts of protein in the dietary.

These studies disclosed that tissue synthesis in protein-depleted rats proceeded rapidly when the basal ration was supplemented with the ten indispensable amino acids. When, however, these ten amino acids were divided into two groups, the first containing five and the second group the remaining five amino acids, alternate feedings with groups I and II at intervals as short as two hours produced startling results: the rats either continued on their downward nutritional trend or could barely maintain their weight. These experiments indicate that ingestion and absorption of all the essential amino acids must be synchronous for optimal utilization in tissue synthesis, and that protein waste will occur if ingestion is not properly timed.

In the light of these observations the presence of high quality protein foods in the daily dietary gains new significance, because biologically complete protein permits simultaneous utilization of all essential amino acids, making for most efficient nitrogen metabolism. The inclusion of complete protein in the dietary gives absolute assurance of simultaneous availability of all essential amino acids.

Meat is man's preferred source of biologically complete protein, capable—regardless of cut or kind—of improving the quality of less complete proteins supplied by many other foods.

*Cannon, P.R.; Steffee, C.H.; Frazier, L.E.; Rowley, D.A., and Stepto, R.C.: The Influence of Time of Ingestion of Essential Amino Acids upon Utilization in Tissue-Synthesis, Federation Proc. 6:390, 1947.

Cannon, P.R.: Amino Acid Utilization in the Surgical Patient, J.A.M.A. *135*:1043 (Dec. 20) 1947.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

American Meat Institute

Main Office, Chicago . . . Members Throughout the United States

# Amazing discrepancies!

"Amazing discrepancies . . . usually exist between the food the patient *eats* and that which the surgeon [or physician] *thinks* the patient eats."[1]

Among medical and surgical patients, it is particularly important to eliminate any discrepancy between vitamin needs and vitamin intake by reinforcing a good diet with multivitamins in therapeutic potencies. "A good capsule of this type is Upjohn's Zymacaps."[2]

*1. Canada M. A. J. 54:283 (Mar.) 1946.*
*2. J. South Carolina M. A. 44:17 (Jan.) 1948.*

**Each Zymacap* provides:**

| | |
|---|---|
| Vitamin A | 12,500 U. S. P. units |
| Vitamin D | 1,000 U. S. P. units |
| Thiamine Hydrochloride | 5 mg. |
| Riboflavin | 5 mg. |
| Pyridoxine Hydrochloride | 2 mg. |
| Calcium Pantothenate | 10 mg. |
| Nicotinamide | 30 mg. |
| Ascorbic Acid | 100 mg. |

Available in bottles of 24, 100, and 250.

**Trademark, Reg. U. S. Pat. Off.*

Upjohn
KALAMAZOO 99, MICHIGAN

fine pharmaceuticals since 1886

Zymacaps

## ESTROGENIC THERAPY WITHIN REACH OF ALL

Diethylstilbestrol, Lilly, faithfully imitates the known physiological effects of natural estrogens. It is particularly valuable in relieving symptoms of the menopause, in senile vaginitis, and in "functional uterine bleeding."

Diethylstilbestrol, Lilly, is available in tablets, ampoules, and vaginal suppositories in dosages to fit every indication. Complete literature is available to physicians upon request.

ELI LILLY AND COMPANY
INDIANAPOLIS 6, INDIANA, U. S. A.

INDUSTRIAL MEDICINE

*Volume 17* AUGUST 1948 *Number 8*

# Employment of Cardiacs

HOWARD B. SPRAGUE, M.D.,
President, New England Heart Association,
Associate Physician, Department of Cardiology,
Massachusetts General Hospital

LITTLE work has been done in the careful evaluation of the factors involved in employing cardiacs in industry. It has, however, been a subject of interest to the American Heart Association and to certain of its members such as Kilgore[1] in San Francisco, Stroud[2] in Philadelphia, and Goldwater and de la Chapelle and their associates [3,4,5] in New York. Shortly before the war the Committee on Policies and Activities of the American Heart Association, of which I was chairman, included the study of this problem in the structure of aims of the Association. A few reports have been made by industrial physicians such as Crain[6] at the Eastman Kodak Company, and Kuhn[7] in February, 1948, giving the results of a six-year study in an electrical parts factory.

Three different problems are involved. (1) The employment of a known cardiac cripple. (2) The employment of an individual, without examination, who either does not know of his disability or hides the information. (3) The continued employment of those grown old in industrial, or other work, who have developed the cardiovascular ailments of hypertension and arteriosclerosis.

## Problems in the Employment of Cardiacs

IN THE first problem the modern point of view must, I believe, be that of a cooperative effort on the part of the patient, his own physician or supervising clinic, the industrial physician, the employer, and the state and Federal agencies concerned with their aspects of the situation, namely industrial compensation, and vocational training and job placement. The manpower demands of war accelerated the activities of those concerned with employment of the handicapped. Largely through the work of Goldwater and his associates in New York, a more direct approach to this in relation to the cardiac patient was started in 1941 at the Bellevue Hospital Cardiac Clinic in cooperation with the New York Heart Association. The concept is a dual one involving an analysis of the employee's capabilities and, secondly, careful job analysis, all leading to *selective job placement* in competitive employment.

It became obvious early that a great many cardiacs were already employed, particularly if we include the self-employment of the housewife whose physical exertions are by no means negligible. Of 2,081 patients in New York cardiac clinics, 84% of the women and 47% of the men were at work. Stroud, similarly, found in Philadelphia that 25% of all jobs in industry are possible of performance by cardiacs without compromising the job or the jobholder. The results of these studies are available in the literature of the subject.

So far as problem number two is concerned, the employment of those whose cardiac status is not known to the employer, a counsel of perfection would require pre-employment physical examinations for everyone, or at least that the previously established disability be defined before employment. I recognize the technical difficulties, but we are tending in that direction.

Problem three, the management of those who acquire cardiac disease during their working years, involves periodic physical examinations such as we have become accustomed to in military practice. It is a sound procedure and conserves manpower if the principle of assignment to *limited duty* is similarly applied to industry.

Let me review the variables in this complex equation of fitting a cardiac into industry. These factors come into the lives of all of us, for indeed how many of our associates in medicine have had to make their adjustments to work demands following coronary occlusion, and how many of us here today will be faced with this as the years go on.

## Limiting Factors

THE PHYSICAL DISABILITY AND ITS PROBABLE PROGRESSION: Unlike the more obvious orthopedic handicaps of what are usually considered *crippled individuals*, the employment of a cardiac involves the probability of a deferred or contingent liability because of the statistical reduction in life expectancy, and consequent invalidism and shortening of employable time. Rheumatic heart disease, often occurring in the second decade, will permit an average of 10 to 15 years of employable life. From the work of Dr. Jones and Dr. Bland[8] in following the course of 1000 rheumatic cardiacs, it appears that in 10 years about one-third are dead, one-third are doing well and

Presented at the Thirty-third Annual Meeting of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, Boston, April 1, 1948.

are able to work, and one-third are invalided to a significant or serious degree. Hypertensive disease coming in the fifth decade may give 10 or more years of normal existence, and even arteriosclerotic disease of the sixth decade often allows several years of productive life. Syphilitic heart disease, a small group, not rarely is unrecognized until dyspnea occurs and by then the prognosis is usually unfavorable for further work.

The cardiac impairment itself may result in the following: (1) Physical weakness; (2) heart failure of the congestive type; (3) heart failure of the anginal type, or of coronary thrombosis; (4) sudden attacks of cardiac asthma; (5) sudden attacks of unconsciousness—cerebral embolism, thrombosis, or hemorrhage, or heart block; (6) the hazards of peripheral vascular disease with the possibility of severe effects from minor injury to the feet and legs.

THE LEGAL FACTORS involve the liability for injury to the workman or his fellows, and the consequent increase in the cost of compensation insurance. It is probably true that a good pre-employment examination, as Crain states, is better than a waiver of disability. The laws in relation to waivers vary in different states. In Massachusetts no general waiver is legal, but a waiver of a specific disability incurred during employment is possible. The application of this provision in the law has been very infrequently applied to cardiac complications. Another method of protecting the employer in utilizing the handicapped worker is by the extension of the second injury fund such as has been available in some 20 states including Massachusetts.

The situation in New York State, however, is unique in that since an amendment to the law in 1944, the Second Injury Law is held to apply "in all cases of 'pre-existing physical impairment,' and is designed to relieve employers and their insurance carriers of any extra liability that may attend the employment of handicapped persons, including those having heart disease. When a second injury law operates, the claimant receives the same amount of compensation as he would if there were no second injury law, but a part of the money (in New York anything above 104 weeks benefits) comes from the second injury fund."[3c]

By the use of such funds, de la Chapelle has stated that "in general the employment of persons known to have heart disease will not have any significant influence on workmen's compensation rates."

THE ECONOMIC FACTORS are those concerned with the relative efficiency of the cardiac on the job, the expenses of absenteeism, and the cost of training the employee in relation to the time that he may be able to stay on the job. In Kuhn's experience, for example, it was found that the actual mechanics of hiring and recording a workman amounted to an expense of $140 if he stayed at work for three months or less. It must be recognized, moreover, that jobs suitable for cardiacs in general require a longer training time than is usually necessary, and we must not become involved in prolonged training of individuals whose cardiac reserve is seriously impaired.

Dr. Howard Rusk[9] recently reported the preliminary findings in an important study on the employment of cardiacs. He states, "That cardiacs, selectively placed in the proper job, make good employees has been shown by a number of studies. In the latest of these, conducted by the Bureau of Labor Statistics for the Veterans' Administration, 1,800 workers with cardiac impairments were compared with 3,000 unimpaired fellow workers in the same jobs. Although the cardiacs were slightly higher in absenteeism, disabling work injury and voluntary quit rates, and slightly lower in non-disabling work injuries, differences were so slight they were not considered significant. For example, the cardiac cases averaged being absent two and one-half days a year more than their non-impaired fellow-workers, but more than compensated by their increased efficiency, for the only significant difference between the two groups was in work output, where the cardiac cases, as a group, produced over 2% more than the unimpaired workers in the same job. The cardiac has shown his ability to work."

THE ELEMENT OF LABOR RELATIONS is complex. Labor union rules protecting seniority and preventing freedom of transfer of the handicapped to more suitable jobs are restrictive. Labor tends also to resist pre-employment and routine physical examinations. As has been stated by others, a tough foreman or unsympathetic fellow workmen may be harder on the cardiac than the job itself.

### Pre-Employment Examinations

FROM a practical standpoint what should we know about a cardiac patient before considering employment? As a cardiologist I would naturally advise complete cardiac study, including history, auscultation, x-ray film, and electrocardiogram. However, I should be satisfied with a good physical examination of everyone under 40 years of age, and require the x-ray after this only in hypertensives, but the electrocardiogram in everyone over 40. With the newer direct recording electrocardiograph this latter test is easily made.

The history in industrial medicine is far less valuable than in medical practice because the applicant is anxious to avoid revealing data. It was found by Kuhn that having a history taken by a nurse tends to reduce the antipathy to medical examination.

Electrocardiography I have found valuable and have used it for years, on request of the Boston Elevated Railway Company (Metropolitan Transit Authority), for all their older employees, for applicants with questionable findings on physical examination, and for those in whom

TABLE 1.
CLASSIFICATION OF ELECTROCARDIOGRAMS AS RELATED TO TYPE OF WORK
BOSTON ELEVATED RAILWAY COMPANY (M.T.A.)

CLASS 1. Man should be retired.
CLASS 2. Man cannot operate car or bus, but can do other work.
CLASS 3. Man can be operator, but should be checked frequently.
CLASS 4. Man can be operator—no limitations so far as electrocardiogram is concerned.

| | |
|---|---|
| *Rhythms* | |
| Premature beats | Class 3 |
| Auricular fibrillation and flutter | Class 1 or 2 |
| A-V block | Class 1 |
| *Axis Deviation* | |
| Left axis deviation with normal T one | Class 3 |
| Left axis deviation with abnormal T one | Class 2 |
| Right axis deviation | Class 3 (check cause) |
| *S-T and T changes* | |
| Diphasic T all leads, ? digitalis | Class 2 (check history of digitalis medication) |
| Low T all leads | Class 3 |
| Low T or flat T one | Class 2 or 3 |
| Inverted T one, or T one and T two, without left axis deviation | Class 1 |
| Inverted T two and T three | Class 1 |
| Abnormal chest lead—inverted T waves and absent R wave | Class 2 or 1 |
| *Intraventricular block* | |
| If slight | Class 2 |
| If bundle branch block | Class 1 |

TABLE 2.
1938-1943
BOSTON ELEVATED

| Electrocardiograms 246 cases | | | Number over age 65 | Dead in five years |
|---|---|---|---|---|
| CLASS 1 or 2—90 cases | | | | |
| Retired—no follow up | 5 | | | |
| Dead | 29 | | | |
| Living | 56 | | | |
| | 90 | Cases | 35 (30.0%) | 30% |
| *Cause of death* | | | | |
| Suddenly | 3 | | | |
| Cardiac | 5 | | | |
| Cause unknown | 21 | | | |
| | 29 | Cases | | |
| CLASS 3 or 4—156 cases | | | | |
| Dead | 16 | | | |
| Living | 140 | | | |
| | 156 | Cases | 62 (39.7%) | 10% |
| *Cause of Death* | | | | |
| Cerebral hemorrhage | 2 | | | |
| Cardiac | 1 | | | |
| Suicide | 1 | | | |
| Cause unknown | 12 | | | |
| | 16 | Cases | | |
| *Cause Unknown*—12 cases | | | | |
| Ages 50-60 | 3 | | | |
| 60-70 | 5 | | | |
| 70-72 | 4 | | | |
| | 12 | Cases | | |

the advisability of continuance as operators of street cars and busses has arisen.

A working diagnostic classification was devised to separate these men into four groups. It will be seen (Table 1) that the first two groups were made up of those who were considered, from their electrocardiograms alone, to be either in such a precarious condition that they should be retired, or should not (Class 2) be allowed to operate cars or busses. The combined Classes 3 and 4 were those who could continue as operators, with or without frequent medical observation. The percentage of men oyer 65 was actually a little greater in those who were permitted to continue as operators as compared with those showing graver electrocardiographic changes.

Table 2 shows that, with this rough screening by the electrocardiogram alone, it was possible to select a group with poorer mortality figures. In the combined Classes 1 and 2 approximately 30% were dead in five years, as compared to 10% in the group (Classes 3 and 4) who were allowed to continue as operators. A high mortality would, of course, be expected in such an age distribution, but it does appear that the electrocardiogram was of value in prognosis.

## Conditions for Work

ASSUMING next the employment of a cardiac patient, what are the ideal conditions for work? Clearly, job analysis must decide this for each case, but practically one cannot go much beyond a division into light, medium, and heavy work.

The problem of transportation to and from the job is often more important than the work itself, and should be taken into account if it involves a long trip, exposure to cold, hill climbing, or stair climbing in subways, etc.

It must be recognized that infection, especially respiratory infection, is more important in disturbing the balance of cardiac compensation than any other factor. This is especially true in the rheumatic, and if a person with rheumatic heart disease follows the best medical advice this involves an unpredictable amount of absenteeism for minor colds and sore throats. Obviously the training and value to the organization of such a person will determine whether or not the employer can afford to accept this risk. It follows, however, that employment, if possible, should be in industries which are not remarkable for their exposure to respiratory infections and where there is not severe crowding and improper ventilation. In general these activities are to be avoided: heavy lifting, working with arms over head, crawling, pulling, climbing, dangerous machinery, cold temperature (as in iceboxes), and work done at other than the speed determined by the individual.

On the other hand, many types of work are satisfactory for cardiacs if carefully correlated with their capacity. I cannot overemphasize the value of medical observation on the job and the necessity for considering every cardiac on probation until his capacity has been correlated with the demands of his particular work. Recognition of this will save much time and money and is another function of the industrial physician.

## Placement in Reference to Disability

WHILE it is dangerous to generalize one must admit that the rheumatic cardiac is a poorer industrial risk than the hypertensive. He is more sensitive to respiratory infections and their effects upon cardiac compensation and is subject to absenteeism for minor causes. In mitral stenosis the eventual occurrence of auricular fibrilla-

tion is almost inevitable and should not be attributed to employment in the absence of trauma.

The hypertensive person, if we include the early cases of hyperreactive individuals, and omit malignant hypertension and patients with renal failure, usually maintains his strength and employability for many years. As in syphilitic heart disease, however, left ventricular failure when it finally arrives is serious and can be only partially alleviated. Thereafter, such an individual is never a good employment risk except under very carefully controlled conditions of very light work. Such a transfer from the heavy labor of which the hypertensive is often capable presents great practical difficulties. I know of many instances, however, where skilled labor, as in electrical industries and precision machine work, has been transferred to light bench or smaller lathe work satisfactorily, at least for a few years.

The coronary thrombosis victim is a great problem, particularly as coronary disease appears not infrequently in the forties or even in the thirties. Attention to this situation has been drawn by the experience of sudden, unexpected death in many young soldiers in World War II proved by autopsy to have resulted from coronary disease.

Angina pectoris cannot be diagnosed except by the history of the patient. If routine electrocardiograms are taken as a part of pre-employment examinations only the individuals who have had myocardial infarction will be discovered, and some of them only if multiple chest leads are recorded. However, I know of more than one instance where men have concealed the history of previous mild myocardial infarction and have been accepted for commissions in the armed services.

If the history is thus concealed, sudden deaths in industry will occasionally occur, but so also will rare instances be found of sudden death from coronary disease without previous warning.

It is possible to employ men with angina pectoris in certain work, but this applies largely to the substitution of a lighter job for an old employee who has been long in the service of a particular company.

In an analysis in 1939[10] of 50 patients of my own who had had myocardial infarction, 40% were found to have returned to work. However, this included many of the executive and professional types who are not forced to engage in heavy labor. It is a good rule that if, following coronary thrombosis, the heart is not enlarged, the sounds are of good quality, and the individual can perform his customary duties without producing angina pectoris, he may be allowed to continue at work, with the recognition by all concerned that recurrence is likely regardless of what he does. The natural progress of disease should not be compensable, and there is no evidence that effort or strain of a *non-unusual* character, which does not produce symptoms, has any influence on the acceleration of cardiovascular disease. Every legal decision to the contrary hinders the utilization of the handicapped in competitive employment.

## Factors to be Recognized

WE ARE faced with the recognition first that the cardiac with a disability of mild degree has a prognosis better than average and that it is to the interest of himself and to our social and economic scheme that he be utilized in industry if possible. It is only necessary that the employer be assured by competent statistical evidence that such employment is also to his advantage and that the risks are not such as to make it financially undesirable to the industry or to labor.

The development of cooperative Work Classification Units such as I have mentioned will relieve to a degree the burden of preliminary medical and job analysis and supply information for industrial physicians.

Secondly, we must recognize the need for the continued employment of older workers since we are becoming an aging population in the United States and the skill, experience, and dependability of older workers should be utilized as long as economically advisable. The financial burden of retirement on pension or on old age dependency payments at earlier and earlier ages due to the influence of politicians will become vastly greater as the average age of the population increases. This may well become economically unbearable.

Finally, the recognition of rheumatic heart disease early in life should, by definition, imply that vocational training adapted to the disability be undertaken as soon as possible to develop such skills or mental capacity as may be latent in the individual toward his adjustment to economic and social conditions in adult life.

## Bibliography

1. KILGORE, E. S.: The Cardiac Cripple in Industry. Modern Concepts of Cardiovascular Diseases, Am. Heart Assoc. 6, 2, 1937.

2. STROUD, W. D.: The Cardiac in Industry. The Diagnosis and Treatment of Cardiovascular Disease, 2:33 1048, F. A. Davis Co., Philadelphia, 1940.

3. (a) GOLDWATER, L. J.: Employment and Heart Disease. Pamphlet of Am. Heart Assoc.

(b) GOLDWATER, L. J.: Heart Disease and Employment. *R. I. Med. Jour.*, 30:179, 1947.

(c) GOLDWATER, L. J.: Personal communication.

4. KOSSMAN, C. E., GOLDWATER, L. J., DE LA CHAPELLE, C. E.: Selective Placement of Patients with Heart Disease in Competitive Employment. *Occup. Med.*, 3:531, 1947.

5. KRESKY, B., and GOLDWATER, L. J.: Occupational Potentialities of Cardiac Patients. *Am. Heart Jour.*, 27:623, 1944.

6. CRAIN, R. B.: Placement of the Cardiac in Industry. INDUSTRIAL MEDICINE, 12:368, 1943.

7. KUHN, P. H.: Paper read before the N. Y. Cardiological Soc., Inc., February 10, 1948.

8. JONES, T. D. and BLAND, E. F.: Rheumatic Fever and Heart Disease (completed 10-year observations on 1000 patients). Transactions Assoc. Amer. Phy., 57:267, 1942; Archives Institute Cardiology in Mexico, 15:349, October, 1945.

9. RUSK, H. A.: Research Held Great Need in Fight on Heart Disease. *New York Times*, February 8, 1948.

10. SPRAGUE, H. B.: What Price Coronary Thrombosis? *Bull. Med. Soc., County of Erie and Buffalo Acad. of Med.*, 16:3, 17-22, No. 3, March, 1939.

The author wishes to acknowledge the cooperation in this study of MR. EDWARD DANA and MR. H. C. OLIVE of the Boston Elevated Railway.

# A Survey of Eating Habits

## American Can Company, Hamilton, Ontario, Plant

A RECENT survey of the eating habits made at the Hamilton, Ontario, plant of the American Can Company, the first of its kind ever conducted in Canada, serves to emphasize the close relationship between good food, good health and good work.

Probably the outstanding revelation of the test was the conviction that the average worker, while eating plenty of meat and other proteins can improve his selection of food by including more milk, fruit, vegetables and whole grain cereals. According to government health agencies, this is true of most Canadian workers.

While a company interested in the health of its employees may point up the benefits of good diet through educational programs, it has, of course, no positive control over the average worker's leanings to a strictly "meat and potatoes" fare at home despite the availability of fruits, vegetables and whole grain cereals.

THE survey was undertaken several weeks ago under the joint supervision of DR. A. R. OLMSTED, company physician at the factory; MRS. MARY SOLAWAY, R.N., of the medical department there; and MISS HELEN ABELL, Canadian Division home economist. Its goal is the company's desire to build the healthiest possible diet habits among its employees by making available, daily, nutritious foods and helpful suggestions for meals at home. MISS ABELL compiled a simplified survey form, and MRS. SOLAWAY personally approached the factory workers and explained the purpose of the survey. Having the confidence of the people in the plant, she selected a representative sample of about 80 men and women who agreed to record their complete week's food intake on the mimeographed survey forms.

The survey form, designed to bring out several factors related to the actual food itself, explained: "this record will let us all see if the foods that keep us on the job are being eaten." Food intake periods were arranged in a form to include mid-morning, mid-afternoon and before-bed "snacks" in addition ot the regular normal three meals. The employees also were asked to state whether they cook their own meals, and to list the amount of water drunk each day. The form showed the department in which the employee works and the job he holds. The workers taking part in the survey were carefully selected to present the best possible cross-section of both male and female employees, representing various job and income levels. The report on the survey was based on 74 completed forms received at the end of a seven-day period.

The basis for judging the workers' weekly record of their food intake was the Canadian government publication, "Canada's Food Rules." These food rules are the accepted Canadian standard for nutritionally adequate food consumption. These rules follow:

1. MILK—adults, one-half to one pint.
2. FRUIT—one serving of citrus fruit or tomatoes or their juices; and one serving of other fruit.
3. VEGETABLES—at least one serving of potatoes; and at least two servings of other vegetables, preferably leafy, green, or yellow, and frequently raw.
4. CEREALS AND BREAD—one serving of whole grain cereal and at least four slices of Canada Approved vitamin B bread (whole wheat, brown or white) with butter.
5. MEAT AND FISH—one serving of meat, fish, poultry, or meat alternates, such as beans, peas, nuts, eggs or cheese. Use eggs and cheese at least three times a week each. Use liver frequently.

To simplify the judging, a little chart was drawn up allowing five spaces each day for the seven days. If the worker complied with "Canada's Food Rules" for Monday, he was scored "5," which meant that he had received the recommended quantity of each of the five food groups for that day. If he missed any of the five groups, he was scored "0" for the one missed and "1" for each of the other groups; thus his daily score would be "4." In this way it was possible to score a total of "35" for a week. Below is the chart used in checking.

*YOUR FOOD INTAKE SCORE* NAME_____

| Canada's Food Rules | Mon. | Tues. | Wed. | Thur. | Fri. | Sat. | Sun. | Total weekly score per food item |
|---|---|---|---|---|---|---|---|---|
| Milk | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 5 |
| Fruit | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| Vegetables | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 3 |
| Cereals & Bread | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 4 |
| Meat and Fish | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |
| Total daily score | 3 | 3 | 2 | 4 | 4 | 3 | 3 | 22 |

Each record sheet was examined carefully and scored, and suggestions were made for changes needed. For example, many workers ate potatoes and one other vegetable a day, but had no fresh, raw or leafy vegetable. In this case, the handwritten comment was a suggestion that the worker carry raw carrot sticks, raw cabbage, or, in season, tomatoes or celery to supplement his noon lunch. The average score received by the workers was "20." The lowest score of "7" and the highest score of "34" were received by women workers.

### Return of Survey Forms to Workers

THE workers' food record sheets, with the chart attached and comments, were returned within two weeks to MRS. SOLAWAY, who, in turn, returned them to the workers, together with a copy of the American Can Home Economics Sec-

### FOOD INTAKE RECORD

**For one complete week please record the food that you have taken at mealtime and between meals. This record will let us all see if the foods that keep us on the job are being eaten. Please print or write plainly, and show the type of food, the amount eaten, and how it was prepared, wherever possible, such as "Potatoes boiled in jackets," not just "Potatoes," or "Fried Parsnips," not just "vegetable," or "3 slices brown bread," not just "Bread," or "2 cups Tea, milk and sugar," not just "Tea."**

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday | Do not write in this space |
|---|---|---|---|---|---|---|---|---|
| Breakfast | | | | | | | | |
| Morning rest | | | | | | | | |
| Lunch | | | | | | | | |
| Afternoon rest | | | | | | | | |
| Supper | | | | | | | | |
| Before bed | | | | | | | | |

Full Name _____ Do you cook your own meals?_____

Dept. & Job_____

Be sure to list the amount of water that you drink each day. Thanks for your help in keeping this record

tion's booklet, "Help Make Canada Strong," which contains "Canada's Food Rules," as well as other nutritional information.

INDIVIDUAL SCORE ON SURVEY

| Score received | Number of people | Percentage of total participants | No. of men | No. of women |
|---|---|---|---|---|
| 7 | 1 | 1.3% | 0 | 1 |
| 9 | 1 | 1.3 | 0 | 1 |
| 10 | 1 | 1.3 | 0 | 1 |
| 11 | 1 | 1.3 | 0 | 1 |
| 12 | 1 | 1.3 | 0 | 1 |
| 13 | 3 | 4.0 | 2 | 1 |
| 14 | 4 | 5.4 | 2 | 2 |
| 15 | 4 | 5.4 | 2 | 2 |
| 17 | 6 | 8.1 | 4 | 2 |
| 18 | 5 | 6.7 | 2 | 3 |
| 19 | 8 | 10.8 | 4 | 4 |
| 20 | 7 | 9.4 | 5 | 2 |
| 21 | 4 | 5.4 | 1 | 3 |
| 22 | 6 | 8.1 | 4 | 2 |
| 23 | 3 | 4.0 | 3 | 0 |
| 24 | 1 | 1.3 | 1 | 0 |
| 25 | 2 | 2.7 | 0 | 2 |
| 26 | 4 | 5.4 | 3 | 1 |
| 27 | 4 | 5.4 | 1 | 3 |
| 28 | 1 | 1.3 | 1 | 0 |
| 29 | 3 | 4.0 | 3 | 0 |
| 30 | 3 | 4.0 | 2 | 1 |
| 34 | 1 | 1.3 | 0 | 1 |
| Average 20 Total | 74 | | 40 | 34 |
| | Number participating | | 40 | 34 |
| | Average score | | 21.1 | 19.1 |
| 15.9% | of participants scored from | | 1-14 | |
| 45.8 | " " " " | | 15-21 | |
| 37.5 | " " " " | | 22-35 | |

Many of these people came to MRS. SOLAWAY and discussed their record forms and asked for further information. The record kept by JENNY RANDELIN, who had the highest score, 34, was typed and posted in the factory lunchroom, where it was read and discussed by many of the workers.

MRS. SOLAWAY checked the medical records and found that the most frequent visitors to the medical room had the lowest scores in this survey. These people are the chronic medical room visitors, their records list such ailments as fatigue, constipation, emotional instability and the frequent occurrences of head colds.

The most frequent medical room visitors were those scoring '10' or less on the survey.

The fairly frequent medical room visitors were those scoring around '13.'

Those scoring '25' and over seldom are seen in the medical room.

This information clearly indicates the soundness of a company program that promotes better nutrition.

The majority of the workers have their meals prepared for them.

In any attempt to influence food habits it is vital to know whether the person concerned prepares his own meals or is dependent on someone

in the home or in a restaurant for meal preparation.

| Men | Prepares own meals | Does not prepare own meals | Partly prepares own meals | No Answer |
|---|---|---|---|---|
| | 6 | 32 | 0 | 3 |
| Women | 9 | 18 | 6 | 0 |
| | 15 | 50 | 6 | 3 |

The daily food intake score indicates that the most nutritionally complete meals are eaten on Monday, Tuesday, Wednesday and Thursday, although none are totally complete. A complete daily score would be '5.'

| Average score | Mon. | Tues. | Wed. | Thur. | Fri. | Sat. | Sun. |
|---|---|---|---|---|---|---|---|
| | 3.0 | 3.1 | 3.2 | 3.0 | 2.5 | 2.5 | 2.4 |

One factor influencing this finding is the fact that these workers are on a five-day week. The mealtime routine is changed for many on Saturday and Sunday.

| For 7 days per week the required amount of MILK is consumed by 17.5% of the workers. | | |
|---|---|---|
| 6 | | 13.3 |
| 5 | | 29.7 |
| 4 | MILK | 8.1 |
| 3 | | 4.0 |
| 2 | | 5.4 |
| 1 | | 10.8 |
| 0 | | 10.8 |

This shows that 60.7% consume the required amount of milk five or more times per week; 28.3% from one to four times per week; while 10.8% did not consume the required amount of milk at any time during the week.

This rather large consumption of milk during the first five days of the week is no doubt due to the excellent practice of selling milk to the workers at the plant.

| For 7 days per week the required amount of FRUIT is consumed by 13.5% of the workers. | | |
|---|---|---|
| 6 | | 12.1 |
| 5 | | 13.5 |
| 4 | FRUIT | 13.5 |
| 3 | | 12.1 |
| 2 | | 8.1 |
| 1 | | 10.8 |
| 0 | | 16.2 |

This shows that 39.1% consume the required amount of fruit five or more times per week; 44.5% from one to four times per week; while 16.2% did not consume the required amount of fruit at any time during the week.

| For 7 days per week the required amount of VEGETABLES consumed by 4.0% of the workers. | | |
|---|---|---|
| 6 | | 0.0 |
| 5 | | 9.4 |
| 4 | VEGETABLES | 12.1 |
| 3 | | 21.6 |
| 2 | | 10.8 |
| 1 | | 18.9 |
| 0 | | 22.9 |

This shows that 13.4% consume the required amount of vegetables five or more times per week; 63.4% from one to four times per week; while 22.9% did not consume the required amount of vegetables at any time during the week.

These figures are affected by the season of the year, and by the fact that few workers at the time of the survey carried raw vegetables or small salads in their lunch boxes.

| For 7 days per week the required amount of WHOLE GRAIN CEREALS AND BREAD is consumed by 21.6% of the workers. | | |
|---|---|---|
| 6 | | 8.1 |
| 5 | | 10.8 |
| 4 | CEREALS AND BREAD | 5.4 |
| 3 | | 10.8 |
| 2 | | 6.75 |
| 1 | | 6.75 |
| 0 | | 29.7 |

This shows that 40.5% consume the required amount of whole grain cereals and bread five or more times per week; 29.7% from one to four times per week; while 29.7% did not consume the required amount of whole grain cereals and bread at any time during the week.

The workers could increase their consumption of brown bread by using it for sandwiches to a greater extent. This could be done through teaching the need for this food. Much of this education is now being done through the medical department.

MEAT AND FISH: For seven days per week the required amount of meat, fish, etc., is consumed by 86.4% of the workers; for six days by 13.5% of the workers.

This shows that 100% of the workers consume the required amount of meat, fish and other protein foods six or seven days per week.

The fact that the use of protein foods ranks high is due to several factors, chief among them being preference. These protein foods are familiar to the average Canadian and satisfy his appetite. Many have the mistaken idea that a heavy meat diet is needed to supply energy. For this reason the food money is spent chiefly for protein foods to the exclusion of the other four food groups which are needed to balance the diet.

*Of the workers 94% eat from four to six times per day.*

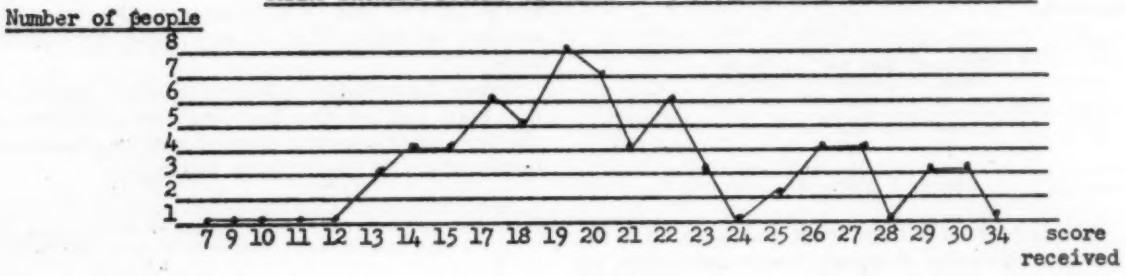
Six recognized eating periods were listed on the survey forms. The results show:

| Eating period | Number of people | Men | Women |
|---|---|---|---|
| 1 per day | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |
| 3 | 4 | 4 | 0 |
| 4 | 20 | 12 | 8 |
| 5 | 16 | 5 | 11 |
| 6 | 34 | 19 | 15 |

This indicates that 6% of the workers take only the recognized three meals per day, the majority take food four, five or six times during the day.

The most frequent times for taking food are the regular breakfast, lunch and supper periods. Next in popularity comes the period prior to

CHART SHOWING SCORES OBTAINED IN SURVEY OF 1 WEEK'S FOOD INTAKE




Average score '20' Median score '19' Extreme score '7' and '34'

retiring for the night. Next is the mid-morning rest period and lastly is the mid-afternoon rest.

This is shown by the following figures which were based on the individual worker's weekly habits, rather than on any one particular day.

| Food Intake Period | Total | Women | Men |
|---|---|---|---|
| Breakfast | 74 | 34 | 40 |
| Mid-morning rest | 53 | 27 | 26 |
| Lunch | 74 | 34 | 40 |
| Mid-afternoon rest | 42 | 19 | 23 |
| Supper | 74 | 34 | 40 |
| Before bed | 59 | 29 | 30 |

The fact that nearly all workers take some form of nourishment between regular meals, opens the way to emphasis on the nutritive value of these snacks. The company policy of providing milk which may be purchased by the workers at the mid-morning rest period is a case in point. If the worker is urged to follow Canada's Food Rules, and makes an effort to include these foods in his daily diet, then the fact that the company canteen supplies brown bread sandwiches, whole milk, fresh fruit or fruit juices and raw vegetables that the worker seeks, is a step towards better nutrition and better health.

CONCLUSIONS: This survey gives a picture of the food habits of the workers in the Hamilton, Ontario, factory of the American Can Company. The average worker gets plenty of meat and other protein foods, but he does not choose enough milk, fruit, vegetables or whole grain cereals. This condition is true of the average Canadian.

An improvement in food habits, over a period of time results in improved health, both physical and mental. The worker has been stimulated to recognize his need for meeting the standards set by Canada's Food Rules through the actual participation in the survey. Once the worker recognizes a need for improving his food habits he may be helped through personal contact with the plant medical office and through the use of the educational posters and literature supplied to the medical department trough the Home Economics Section of the American Can Company and the many agencies interested in nutrition.

The logical source of help and inspiration for improving the workers' food habits and health is the company medical department, where the welfare of the worker underlies all policies and practice.

## If He Had Been the Deity

SPEAKING before the International Conference of Physicians in London this last year, Winston Churchill told the story of an eminent American freethinker who was once asked how he would have made the world different if he had been the Deity. He replied: "To begin with, I would have made health infectious instead of disease." We shall probably never completely succeed in eliminating infectiousness of some diseases; but there is a deep sense in which our new knowledge and our widening conceptions of public welfare will result in making health, if not infectious, at least within the reach of all men.

—The Rockefeller Foundation: Review for 1947, by RAYMOND B. FOSDICK.

# Industry's Interest in Health and Safety Services

H. W. SCHWARTZ,
Vice-President, Robertson Paper Box Company,
Montville, Connecticut

IN OUR travels, we, the public, are frequently prone to believe that waste does not cost us anything particularly if the costs are camouflaged. If we see a serious case of human disability the first reaction is to feel very badly for the individual and, while we are sorry, it is hoped that he is insured, and frequently shoulders are shrugged in the belief that the costs are not ours. But the fact is that they are. We are all in this world together and the world is only as rich as everything that everybody produces plus what there was to begin with. Losses caused by unsatisfactory and unsafe conditions, both in industry and outside, create a tremendous extravagance which the public ultimately pays for. And we are the public.

During the last generation industry has come to this realization and, along with it, has discovered that the expense of health and safety services is a good investment and can actually pay handsome dividends,

At the outset let us consider safety services. If we were asked to describe safety service in industry it would probably be difficult for anyone to recognize the amount of it or the importance of it in reducing occupational illness, injuries, and preventing fatalities. However, it is reasonably certain that by making a job safe, we can expect higher productive efficiency, a better quality product, less scrap, and less loss of time away from the job. I do not believe that there is any question of doubt but that safety work has been so well organized that figures could be compiled to prove every one of these claims.

The results of safety engineering in the last two or three decades have been outstanding, but as time goes on it seems that we have reached a leveling out on our improvement curve. If we were to take figures from the National Safety Council for the past 10 years, they would show that the curve representing the trend in accidents as a result of unsafe practices has pretty much flattened out into a straight line.

There is, however, a factor in many safety programs that has been sadly neglected, namely, the human equation, and today safety engineers who years ago applied the principles of engineering to safe methods, safe handling of materials and environment, now realize that the greatest factor, namely the human equation, must be given serious attention.

In considering the human factor, it is imperative to recognize the fact that this problem cannot be treated properly without the application of the techniques of modern industrial medicine.

In coordinating the work of the medical and engineering staffs in industry for accident prevention, we have gone a long way towards eliminating many occupational disease causes, and the control of physical conditions aggravating illnesses to a point where absenteeism has been substantially reduced and production increased.

The importance of this can soon be appreciated when it is realized that in spite of this coordination American industrial workers still lose an average of over nine days each year from accidents and occupational diseases alone. This means losses in spoilage and employee replacement, and large production losses running into staggering sums. Merely from the viewpoint of economics over 18,000 people per year are killed in industry and over 1,800,000 are injured, with a direct cost in deaths and injuries of over $740,000,000. It is estimated that our economic losses from occupational diseases run at least to $10,000,000. The best estimates that can be made on absenteeism show that over 300,000,000 days are lost annually through illness. The physical suffering and mental anguish which all this involves can never be measured in dollars and cents but more importantly, and aside from monetary losses, the employer suffers other losses such as destruction of morale and good will, and loss of prestige, character, and reputation. Therefore safety service must establish itself as a definite part of business management.

It would seem, without delving any further into the statistical side of safety services, that a very important job remains to be done.

SO MUCH for safety. Now let us consider the value of health service in industry. To begin with, I would say that this would also have to be measured in terms of reduction of occupational illnesses and injury, reduction in absenteeism, insurance cost, and scrap, increased quality and quantity of production, and a continuing improvement in employer and employee relations.

In industry we have come to realize that some form of in-plant industrial health care does help solve many plant problems such as the control of communicable diseases among workers, reduction of industrial disease, accident prevention, treatment of minor physical defects, attention to better plant sanitation, and the proper placement of workers at their jobs. This realization brings out very clearly that better health means better workers. Furthermore, healthy workers have fewer accidents, they are less susceptible to infection, they do a better job and have a better will to work. This all adds up to dollars and cents for employee and employer alike, because fewer days are lost from industrial accidents or disease

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

which in turn means a reduction in compensation and insurance costs. Machines get less wear and tear when there are fewer substitute operators, and reduced absenteeism cuts down disruption of continuous processes in the modern factory.

The importance of the individual worker in our industrial scheme seems almost too obvious to call for any amplification. However, it is a fact that the most elaborate and expensively built equipment still requires people to run it. In order to get efficiency out of complicated machines, it is imperative to have efficiency from the men and women operating them. In order to get a high standard of human efficiency, we must be certain in the first place that the physical and mental capacities of the operator have been checked and matched against the demands of the operation. It is a costly procedure to trust the working of our modern machines to people who are physically and mentally unfit for the job.

Once the worker has been placed on a job that he or she is physically and mentally qualified to fill, it is essential in order to maintain a high standard of efficiency continuously to follow and check up on the matter of health. This attention means not only with respect to organic disease processes, the care of injuries, and occupational diseases, but also interest in the mental health of the worker. Such a follow-up involves a medical department furnished with the knowledge of the job requirements, and a very comprehensive appraisal of the worker's productive capacity based on his or her physical and mental condition. The importance of proper placement cannot be over-emphasized nor can the continued interest in the health of the worker on the job be stressed too frequently.

In order for industry to do a real job on such a task it must at the outset be certain that every employee is subjected to a thorough examination by an industrial physician who is thoroughly acquainted with the environment in the plant where the worker intends to earn his livelihood. The doctor should know the type of work the worker expects to do, the hazards involved, and the quality of the supervision in the various departments, and he should understand the company's management and labor program. In addition to the individual's physical capacity, the doctor should find out how well the individual is adjusted to such an environment, and whether he can get along well not only with himself but with his fellow workers. He should know whether he is capable of receiving supervision intelligently, and have some idea if the person's capacity is limited or if he is capable of advancement through education and guidance. The importance of getting this information means a tremendous amount to industry, as management is finding out that labor is no longer easily expendable.

In industry today, both large and small, it costs a great deal of money to hire people. Once they are hired, there is the problem of indoctrination, job training, etc. I read a report recently regarding a company which last year was hiring between 650 and 700 people a month to maintain a working force of 7500. Studies show that it was costing $52.00 per unit of hiring, which amounted to a loss of between $30,000 and $40,000 a month. This did not include the cost of training, or loss of production during the training period, etc. The report went on to show that this particular company had some of the finest engineering brains available anywhere. The whole management was imbued with this engineering spirit. Beautiful machines had been devised to cut down on labor. One machine operated by two people was doing the work formerly done by 96. The safety record in the plant was excellent. However, there was one thing that was wrong and, in spite of the company's high standard of engineering, it was forced to charge higher prices for its product than its competitors. The emphasis of this company was on mechanical engineering and not on human engineering. Recently the company finally came to the realization it could no longer follow the policy of handling labor like machinery, and that more consideration must be given to the health and well being of its employees. It seems reasonable that with proper attention to the human factor and the health of its employees, this company has an excellent opportunity to effect substantial savings on its labor turnover, to say nothing of training costs and production losses.

According to some recent statistics, it costs one of our large bus companies $25.00 to put a new driver out on the road. This includes the expense of hiring, physical examination of the most detailed sort and training. Such examples are cited to show the large amounts of money invested by many employers in their employees. These examples also emphasize the fact that every employer is still in competition with someone else and, if he wishes to meet the competition, he must engineer his business not only mechanically-wise but medically-wise.

It is not meant to create the impression that this refers to pre-hiring medical work. It is an unfortunate error to think of physical examinations only at the time of hiring. They should be set up on a continuing basis. Re-checks should be made whenever an employee is transferred from one job to another requiring different physical and mental capacities. If there are special hazards surrounding the job, checks should be made at regular intervals. There should also be periodic health examinations set up for all permanent employees on an annual basis. The reason for this seems obvious and amounts to this: As an employee works for a company down through the years he becomes more valuable to the company because of his knowledge and experience. He also presumably increases his earning power and capacity as time marches on. Unfortunately at the same time, he grows older and becomes the potential victim of a number of physical defects incident to his advancing years. However, many of these can be detected and corrected if he has a periodic physical examination.

There was a time when industry wanted only young people, but of late there has been a change in the attitude toward elderly employees. Many plants have been very successful in building up the health of older workers by establishing high standards of confidence in the medical department so that as employees grow older they have come to believe in the merits of the department as well as the sincerity of management. In short, they take advantage of a program which makes a constant check on their physical condition.

The value of a good health program that contemplates such periodic check-ups results in a confidence on the part of the employee that he will be placed in a job commensurate with his physical capacities, and consequently he is much more apt to become a steady rather than a transient worker. To emphasize industry's interest in the importance of having steady workers we only have to realize that according to the latest Department of Labor statistics more than 60 million people are presently gainfully employed in the United States. This is more than were employed in industry during the war and, furthermore, there is little prospect that domestic and foreign conditions will change to any extent that will relieve the work load of our industry but, rather, the conditions point to the need for an increase in the size of the work force. Based on industry's experience during the war, the difficulties the labor shortage precipitated, point glaringly to the necessity for good health programs that will lead to lower turnover, less absenteeism, fewer accidents and greater productivity.

In order to accomplish this, industry in addition to the health of the individual worker must concern itself with the sanitary conditions within the plant, good water supplies, clean washrooms and locker rooms, and finally the control of occupational diseases which have such an important bearing on the efficiency of the force.

Another matter of importance in any health service is that of discussing personal health problems with individuals. Many plant managers take the position that when such matters are brought up, they are personal ones of the employees and should not be of any concern to industry. This, however, is a short-sighted point of view. The war brought out very forcibly the importance of this in reducing mental ill health. This does not refer to outright cases of "insanity" but rather to a variety of conditions which affect a very large portion of our population who might be classed as neurotics.

The treatment of such individuals calls for the assistance of an intelligent plant physician who is capable of making a diagnosis differentiating between an organic disease and a neurotic condition. According to recent statistics it is claimed, by good doctors, that 75% of the people visiting them in their offices are neurotics of one type or another; 50% of the patients hospitalized in this country have a neurotic factor involved in their illness; 30% of our boys who were rejected for service in the last war had some form of mental ill health; 10% of those who were accepted and later rejected, were mentally ill. However, neurosis properly handled need not be disabling. As a matter of fact, it is claimed that a neurotic is better off working than staying at home brooding over his fancied ailments, and frequently needs only professional assurance that what he believes may be serious, is nothing for him to worry about at all.

An important point is that the mentally ill are not confined to one class of our population. They are found in wealthy and highly educated people as well as the men in the yard gang who may, for one reason or another, get the idea that things are not right with them. With proper professional advice, these people can be helped and put on the road to improved mental health providing they are checked in time and subjected to the examination of a competent plant physician. It is claimed that only in rare cases does a psychiatrist have to be consulted because the great bulk of neurotics can be handled by an intelligent, honest, industrial physician.

Physical and mental health, like industrial safety, is something no plant maangement can afford to neglect. All plants should have an organized health program which should carry with it authority and prestige and should represent the full and sincere interests of management in the health and welfare of each and every employee. The program should be set up in such a way that its decisions can be made without interference from other departments in the plant. Many concerns are presently promoting a sane health program to insure high productivity and are doing everything possible to make employees realize that good health pays them individually. As proof that it likewise pays the employer, in a survey of the National Association of Manufacturers, out of 1625 concerns which were asked if the health program was a paying proposition, only five didn't say "yes," and four out of the five in answer to other questions showed special reason for the "no" and that it was not so negative as the answer appeared.

Industry's interest seems to me to be pointing in the direction of doing the greatest amount of good by treating the individual employees as human beings and not as being expendables. It is presently thinking of the individual's health as a whole and not as just a make shift first-aid proposition. Industry is interested in getting all of the information necessary in order properly to evaluate the employee so as to make him more effective in his own productive efforts as well as lend the maximum contribution to over-all plant efficiency. Industry is setting up better health programs so that it will automatically derive the benefits of better personnel, safety, and production results. All of us want an America of better living. If we in industry take the best experiences of those who have pioneered in the field of industrial health and adapt those experiences to our own situation, we make a substantial contribution to this goal of better living.

# Graduate Training for Industrial Physicians

RONALD FORBES BUCHAN, M.D., C.M.,
Clinical Director,
Yale Institute of Occupational Medicine and Hygiene,
New Haven, Connecticut

IN ALL probability interest in graduate training for industrial physicians continues because of four main factors:

1. The efforts of professional industrial groups to encourage the graduate training facilities as an item of importance in defining and establishing the field of industrial practice as a specialty. These groups are also interested in orientation for undergraduate medical students relative to occupational medicine and hygiene.

2. The interest of industry in assuring a flow of competent well-trained doctors to meet their needs.

3. Personal search of the industrial physician for graduate education.

4. The growing recognition, on the part of teaching centers, of the necessity for a more positive approach to a neglected field.

The societies of industrial physicians, in their sustained efforts to define the field and to elevate and maintain standards of practice comparable to the best in medicine, have emphasized a pattern of training and experience in the special problems of industrial medicine which would conform to the certification concept exemplified in the various American Specialty Boards. In this regard the industrial physicians have been constantly confronted with a serious obstacle. Having won acceptance of the special nature of industrial practice, progress has been impeded by the lack of "approved training facilities." Approved training facilities usually mean an active hospital service often times associated with a teaching center or a graduate school affording comparable experience.

Industry, turning with increasing interest to the problems of medical care and health conservation, finds it difficult to obtain physicians primarily interested in a career in industrial medicine. Too often the plant must be dependent upon "short term" physicians or those whose other interests are so time consuming that no program of medical care, other than the care of trauma, can be effectively conducted. Aware that comprehensive medical, hygiene and health conservation programs need cost no more or as much as fractional services, industry becomes dissatisfied and turns to the medical profession with the query, "What are you going to do about it?" Certainly that is a fair question, and the profession would be unhappy if industry turned elsewhere with the plea.

The individual industrial physician has for the most part found an outlet for his intellectual yearnings in the various special society meetings and their technical programs, notably those of the joint meetings of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, the AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISITS, the AMERICAN ASSOCIATION OF INDUSTRIAL NURSES and the AMERICAN ASSOCIATION OF INDUSTRIAL DENTISTS, and of the Council of Industrial Health of the American Medical Association. In addition, he has turned to the journals and the too few good textbooks in the field, and rather avidly to the short courses and symposia which have been held under the auspices of various universities and Foundations.

The individual industrial physician, aware of his increasing responsibilities to industry and of the opprobrium which at various times and in various degrees has been attached to his field of endeavor, consciously or unconsciously has looked upon formal graduate training and expanded undergraduate training as factors which would increase his effective contribution and lend more rapid acceptance to his practice and philosophies, assuring him of the same relative professional and public recognition afforded other fields of practice, an understandable motivation.

The physician devoting his attention to industry is further confused by the seeming lack of cohesive thinking among his practicing brethren relative to the scope, methods and objectives of industrial medical services.

It is not surprising, therefore, when one considers these divisions of opinion that teaching centers do not scramble to initiate the formal programs which conform to the usual fellowship and residency training programs. It would seem that we need reasonable accord and agreement throughout the rank and file of industrial practitioners on the scope, objectives and methods of industrial practice. The statement may be made that such accord exists, but until all or a majority of these with industrial affiliations are aware of and supporting the same concepts, I do not believe that such accord exists.

In addition we must consider seriously the interests of the "part-time" and "on-call" men with industrial affiliations, and all the gamut of community practitioners, special and otherwise. And in order to consider their interests we must understand the basis of their thinking and actions in their approach to industrial problems. To a large extent their attitudes are formulated through casual and cursory exposures in medical school and through incidental contacts as they may perform physical examinations or other fractional services for companies in the vicinity

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

of their offices. Such casual relationships do no more than perpetuate all the worst tales they may have heard regarding industrial practice.

To meet this problem it is necessary that reasonable agreement exist within the groups and societies largely devoted to industrial medical practice. Until it does, teaching centers will not hasten to implement their instructional facilities. Until such instructional facilities exist as a more or less organized discipline or infiltration program, medical students (the future practitioners) will not have access to the fundamental facts of industrial medicine and their working attitudes toward the industrial field will continue to be formulated by personal and often times unfortunate incidents, hearsay and distorted fact.

IN LOOKING at our aspirations for graduate training, we must consider the preparation for that training which has its roots in the undergraduate years.

We cannot look for rapid progress in developing proper "awareness" of occupational medicine and hygiene in the undergraduate medical field. Not only do we have the problem of educating the students, but we also have the problem of acquainting other members of the faculty with this field. They have had little opportunity or incentive to become familiar with the broad problems of industrial medical practice. Those who are aware of the increasing responsibilities of medicine will not "scoff at strange notions" but seize eagerly the opportunity for enhancing the significance of their particular subject through integration with sound principles of occupational medicine and hygiene. Inasmuch as industrial medicine must make use of all the established disciplines in practice, then we must have the cooperation of those disciplines and their teachers if we are to succeed in our approach to the medical student. In addition, the efforts of one medical school will be considerably weakened and diluted if a goodly portion of teaching centers do not follow suit within a reasonable period of time. Medical graduates from one school who have been properly acquainted with the field of industrial medicine will have little influence on the yearly national crop of graduates and the practicing profession. It would be naive to expect that a few young medical graduates would long carry the torch for industrial medicine in an apathetic world.

In regard to graduate instruction, there is no reason why it shouldn't develop concomitantly with undergraduate efforts. I believe it is more important that we consider the general problems rather than the details of specific courses which are extant or contemplated.

Physicians may receive graduate medical education in several ways, namely, the usual intern-residency approach, on Fellowships, and as registered graduate students in either a medical school or a graduate school having affiliation with a medical school. An additional method, preceptorship, is not pertinent to this discussion, as we have no means of recognizing preceptors in occupational medicine and hygiene.

The intern-residency approach necessitates access to diversified and competently administered industry—not only to the medical department but also to all shop processes. Somewhere in the picture must be an approved hospital, and most desirably the whole endeavor should be associated with a teaching center. We have a pattern of recognition for industrial medical departments—under the aegis of the American College of Surgeons—but that recognition does not imply approval as a training center. As a matter of fact, it will be largely dependent upon all our developmental efforts whether industrial medical departments ever receive primary approval as training centers. In any event, this recognition is not likely to be granted for several years.

IN SOME states licensure is necessary for interns and residents, in others it is not. Generally speaking, licensure will be required for the time the trainee spends in industry, because he must "practice medicine" to learn. It is possible that the in-plant experience could be considered an "extension" of approved hospital experiences and licensure eliminated, but opinion in that regard must come from the various state licensing agencies, usually centered in the Department of Health or under special licensing commissions or boards. In some instances such a procedure would call for a change in the statutes which could be effected only by legislative action. For those trainees not Diplomates of the National Board of Medical Examiners, licensure will then be a problem. Even National Board Certification will not cover every situation. These problems, however, are not insurmountable, but are mentioned to indicate that from the concept of residency-type training to the actual operation of such a program there is considerable ground to cover.

Fellowships imply a selective, competitive, financial aid approach to a more flexible, less formal program on a research or clinical basis. Again here, the problems of an approved center and licensure, if on a clinical basis, enter the picture.

Registration in a graduate school necessitates the existence of proper courses and faculty, a consideration already discussed, and again, in addition, satisfactory access to industry, and opportunity to participate in the practical functions of the industrial medical department.

Probably the greatest problem of all is associated with the usual practices of the teaching center in regard to education. Traditionally universities are "seats of learning" and that implies fundamental or basic learning. In this country, however, the educational demands and needs of the population have necessitated the creation of "service education" programs, if you will, a concept which does not fit easily into the pattern of all teaching centers. Here the connotation is related to an organized presentation of factual data

with respect to a particular field. The former is learning for learning's sake, the latter, learning with a definite view to application.

Now there is no reason why the physiological "all-or-none" law should apply to this matter of underlying philosophies governing educational approach. Each endeavor represents a functioning effort of our society, and each exists because of basic or developing social patterns. A judicious tempering of one with the other would be healthy for both. The fact is, however, that there may be little rapport between fundamental and applied effort in teaching centers. Thus, if in any given educational institution there is no interest in or if there is actual antipathy toward applied education, then in that spot occupational medicine will not flourish. For actually occupational medicine and hygiene is not an established and accepted discipline such as biochemistry, anatomy, medicine or surgery, but, if you will, is a discipline "looking for a place to happen."

Because of that situation occupational medicine and hygiene must first define itself and be accepted before it can turn to its intellectual responsibilities in the social scheme. It can define itself and be accepted only if it can display its wares. It cannot display its wares in the academic world unless it turns to immediate application of the philosophies and methods which have been developed throughout the years. Thus, occupational medicine and hygiene must create in the teaching center the same relative facilities as the surgeon or internist has on the wards. A surgeon or internist can walk into any hospital and find the basis of his calling there, organized, disciplined, assigned to beds. The industrial physician can walk into the same hospital and see there all the elements of his field of endeavor, but with this important and vital difference: those elements are unseen, unrecognized, by his colleagues, unorganized, undisciplined in the hospital routine. Thus, he must organize, discipline, and direct attention to the potentialities, and in so doing he may be criticized for concerning himself with application rather than the questing investigative approach.

Occupational medicine and hygiene must concern itself with producing trained replacements for the medical needs of industry and government. And as it trains its men, and as it stimulates them, then out of this nucleus will arise the varied individuals and patterns of practice and research which will find their relative place in the sometimes inflexible framework of our society.

Industries assuredly have some definite views in regard to the services which they need from the medical profession. Legal obligations to some extent will dictate certain requirements. Production schedules, manpower, costs, and recognition of the social responsibilities of industry will continue to influence industrial managements in their demands for modern, comprehensive industrial medical programs.

Despite the tremendous strides of the last two or three decades, there are some basic problems which underlie our aspirations for occupational medicine and hygiene. The solution of these problems lie in confidence and belief in our defined field of activity, the constant bolstering of these convictions by personal and group action to assist developments in teaching and research centers, and close scrutiny of the practical obstacles, which because of the Johnny-come-lately aspect of occupational medicine and hygiene in the academic and hospital world retard proper advancement. Industry, particularly, must make known in no uncertain terms its needs in medical and ancillary personnel, its needs in applied and fundamental industrial medical research, its needs for consultant advice in the great gamut of problems falling within the scope of practice and administration in occupational medicine and hygiene, "for the strange notion is a new vision, and the isolated fact a new clay, possible foundation of tomorrow's science."

SUMMARY: Four groups are particularly concerned with graduate training of industrial physicians; the physicians themselves, the societies which represent them, industry, and the teaching centers.

There is a lack of training facilities. Several factors are pertinent to this situation; lack of generally accepted definition of the scope, objectives, and methods of occupational medicine and hygiene; lack of awareness on the part of medical faculties of the opportunities in occupational medicine and hygiene, and the varying philosophical approaches to education, even in those medical schools exerting effort in this field.

Undergraduate teaching in occupational medicine and hygiene is in an embryonic stage, and the future of graduate training is closely allied to developments in the undergraduate field.

Certain steps can be taken to implement present efforts, and require appraisal of the practical difficulties of initiating the usual types of intern-residency programs. Fellowships and graduate students efforts may be undertaken more readily.

Establishment of graduate courses will require adjustment of the educational approach to the present status of occupational medicine and the practical and continuing needs of industry.

# The Medical Profession's Interest in Industrial Health and Safety Services

THOMAS P. MURDOCK, M.D.,
Chairman of the Council,
The Connecticut State Medical Society,
Meriden, Connecticut

THIS is an interesting subject to discuss, and I might add a pleasant and easy one. In this day and time who is not interested in "Industrial Health and Safety Services?" It, of course, is of prime interest to the medical profession, but as you review your program today there are other groups greatly interested. It is a subject of the most vital interest to mankind.

All of us have noticed that on the occasions of great accidents or catastrophies, such as explosions or fires in industries, the press in its descriptions will outline the number dead and injured and very little is said about the financial loss and the destruction of buildings and equipment. This is as it should be, with a true and sincere appreciation of human life.

I am impressed and pleased with your guest sponsors for this program—the Occupational Health Council of the Manufacturers Association of Connecticut, the Industrial Nursing Section of the Connecticut State Nurses Association, the Connecticut Safety Society. All of these organizations have definite places in the solution of the problem. It requires and will continue to require the generous cooperation of all concerned.

The picture in industrial medicine in Connecticut has changed considerably in the last 30 years. There were only a few industrial plants covered by physicians 30 years ago. Medical men were not disposed to approve this branch of medicine. It was classed as contract medicine. In general the caliber of men engaged in industrial medicine was not of high standard. Medicine felt that there was great danger that the quality of medicine would be lowered. It felt that inroads would be made on the family practitioner; that the injection of a third party would destroy the physician-patient relationship; that competitive bidding for services would be harmful to patient, physician and industry.

At that time industry, itself, did not have a high regard for the industrial physician or for industrial medicine. It felt that the industrial physician was a meddler. The old-time industrialist looked upon the industrial physician as an intruder. He believed that the industrial physician did not know anything about industry, its problems or its plants. Many years ago I had the honor of meeting Dr. Thomas Darlington, the physician for the U. S. Steel Company, at the turn of the century. He was a close friend of Dr. David Lyman. He told many tales about the attitude of some industrialists of that day. One in particular, told at a meeting held at Gaylord Farm, was amusing and at the same time revealing. He was visiting and inspecting one of the Pittsburgh plants. In the course of the study he spent a good deal of time in the men's wash room. Just inside the door was a box containing newspapers that had been torn into fours. As the men went in, they took some of the papers. That evening in conference with the leaders, he advised that they replace the newspapers with toilet paper. He was ridiculed and told that newspaper was good enough for them. He then told them that the men read and reread the papers, some of them even turning it upside down to try to read it. They spent a good deal of time unnecessarily in the wash room. Needless to say, toilet paper was used after that.

A great change has come into being about this type of practice. Here in Connecticut some of our great physicians are engaged in this work. Some are on full time, some part time, and some covering several small plants. They are doing a needed and useful work. They are ethical practitioners of medicine. Workmen are given careful physical examinations. In some plants frequent chest x-rays are taken. Absenteeism is being reduced. Contagious and infectious diseases are more readily controlled. When indicated, workmen are hurried to their family physicians for the care of all diseases including the important degenerative, metabolic and neoplastic diseases. The health of men in industry is being more carefully protected. A sincere appreciation of the value of human life exists.

The Connecticut State Medical Society approves industrial medicine and recognizes its importance. The committee on industrial medicine which is recommended by the Council of the State Society for approval by the House of Delegates, is the most active committee in the State Society. I say this advisedly.

I don't have to tell you men of industry, safety and industrial medicine about the importance of the division of industrial medicine, in the State Department of Health. DR. ALBERT GRAY, the director, has a national reputation. His contributions and the contributions of the department are well known. It would be impossible to tell the number of lives that have been saved by the advice and direction given by him and his department to industry.

You men of industry and industrial medicine do not have to be told the story of pneumoconiosis and allied pulmonary lesions. The July, 1947, issue of *Occupational Medicine* was dedicated to DR. LEROY U. GARDNER. DR. GARDNER was a native of Connecticut. The thousands of lives that have been saved and will be saved in the future are an

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

everlasting monument to his work. Here in Connecticut we are very proud of him.

You are also familiar with the Council on Industrial Medicine of the American Medical Association. DR. CARL PETERSON, its secretary, has been one of my close friends for many years. A comprehensive report of this Council was published in the May 8, 1948, issue of the *Journal of the American Medical Association*. His work and the Council's work are musts.

Greater stress must be placed on the importance of teaching industrial medicine in our medical schools. President Alan Valentine, of the University of Rochester, in an address in Chicago in February, at the meeting of the Congress on Medical Education and Hospitals, said that there were not more than three universities in America with good industrial medical departments. This must and will be corrected.

During the past few years close cooperation has developed between Yale University Medical School and the Connecticut State Medical Society. This is as it should be. During this time the medical school has started a division of industrial medicine. The Connecticut State Medical Society is proud of its participation in this development. It is important that young men, who are to do this work in the future, be properly trained. The industrial physician of the future, in Connecticut, will be in a highly specialized field and must obtain and be given specialist training. DR. R. F. BUCHAN who is in charge of this work, at Yale, is a member of the committee on Industrial Medicine of the Connecticut State Medical Society. Two refresher courses on industrial medicine have been given at the medical school during the past few years. This activity is important in order that the medical men in industry and those in general practice, who do part time industrial work, will be able to guarantee workmen the best possible medical care.

I look forward to the day here in Connecticut when our larger hospitals will have services devoted entirely to industrial medicine. And why not? It is a big and active and selective specialty. The problems frequently are unique and differ from the many others in a general hospital.

I have learned a great deal about the nursing problem during the last year. I don't know anyone who was as completely ignorant about the nursing situation as I was prior to the study which began last year and is now nearing completion. As the result of that study my admiration and respect for the nurses have increased tremendously. This is a branch of nursing that requires unusual balance and judgment as well as skillful nursing and kindness. An article in the May issue of the *American Journal of Nursing* states, "In no field of nursing are integrity, sound judgment and professional maturity more strongly challenged than in industrial medicine." Special training must be provided for nurses in this highly specialized field.

I place the Connecticut Safety Council in the same position that we in medicine place departments of health. Their functions are similar. The health departments attempt to prevent all illnesses. The Safety Council is dedicated to the prevention of accidents. It is a noble marriage.

Research must continue. The proper place for this work, in Connecticut, is in the industrial division of Yale University Medical School. This is expensive and requires large endowments. I have the audacity to say that this is a duty of Connecticut industry. I am sure that industry, of now and the future, will accept this responsibility. It will pay large dividends.

Connecticut was one of the first states, if not the first, to provide employment for the physically handicapped. This was a great step forward and redounds to the credit of Connecticut industry, safety and medicine.

There is another and new phase of work to which we must all contribute. I refer to rehabilitation. The work of DR. HOWARD RUSK has made us all conscious of our laxity and weakness. Again industry, nursing and medicine must join in the great endeavor to help people help themselves.

And now I have the temerity to step out of my field and discuss some phases of the work of the Manufacturers Association of Connecticut. This Association has come hand in hand with the other groups in the advancement of industrial medicine. The advances in the last quarter of a century have been tremendous. We must not stop here. A great attack is being made on voluntary medicine in the United States. Some of the proponents of Federal medicine are undoubtedly sincere, if misguided. Some are not. Some are followers of ideologies that are foreign-born and are persistent in their efforts to destroy a free America. They must not be permitted to succeed. If this happens the free and voluntary and great institutions that we have known must fall. Following this, and as sure as night follows day, transportation, insurance, heavy industries and utilities will come into their hands. The time has come for industry to realize that if medicine as we know it goes down, it is the beginning of a day in America that will be black indeed. You should not be fooled by the assertion of these people that they are interested in the common man. It is foolish to believe that the Federalization of medicine would give more or better care to the sick. No one in Connecticut is being denied excellent medical care at any time. Medical men are proud of their heritage. They know, and are willing to accept the responsibility of caring for the sick, and at any and all times. Industry does not want this interference; the Safety Council does not want it; medicine does not want it. Let us have less and less of subsidies and interference from the Federal government and more and more of voluntary agencies.

With the generous cooperation of Connecticut industry, the Safety Council and Industrial Medicine the top rung of the ladder can be reached and maintained. The Connecticut State Medical Society assures you of its unalloyed support.

# Comparative Relationship of Medical, Nursing and Safety Personnel in Industry

ROBERT T. COLLINS,
Director of Personnel, New Departure Division,
General Motors Corporation

IT IS A REAL pleasure for me to be with you this afternoon because the subject of industrial health is one in which we are vitally interested at New Departure. The topic of my remarks covers personnel in three separate but closely allied categories: medical, nursing and safety. The best way to indicate their relationships is, I believe, to describe what we term our "Health Maintenance Program."

This title may sound somewhat restrictive in scope. Let me assure you that the program includes adequate provision for the treatment of injuries and diseases arising out of employment. Despite every possible precaution these continue to occur, though far less frequently than in past years. Apart from this, we use the term "health maintenance" because it is descriptive of a fundamental change which has taken place in industrial medicine. Twenty years ago the chief concern of the doctor in industry was the treatment of injuries or illness stemming from industrial employment. Nowadays the main efforts of doctor, nurse and safety director are devoted to helping employees maintain their health. This evolutionary change from curative to preventive medicine is applicable not only to the New Departure Division but to the entire General Motors organization. Out of this transition has evolved the unified concept of the Health Maintenance Program, better health for better living.

Our program has five basic elements. These are: (1) industrial hygiene service; (2) accident prevention; (3) industrial medical service; (4) opportunities for research; (5) Plant Fellowship Program.

## Industrial Hygiene Service

CONCURRENTLY with the evolution of modern industrial medicine, the severity rate of occupational diseases has shown a marked downward trend. Our medical and safety personnel strive constantly not only to maintain this control but also to increase its effectiveness. Toward this end, studies are undertaken periodically to detect and correct conditions of a harmful nature. As specific examples of this, studies have frequently been made in various departments to determine dust levels, exposure to noise and exposure to chronic acid mist. At the present time research is being conducted in an effort to eliminate the toxic effect of certain new lubricants and anti-rust compounds used in our operations. It is hoped that these studies will lead to new preventive measures capable of reducing the incidence and severity of dermatitis still further.

In addition to the work carried on at a divisional level, the corporation maintains a central industrial hygiene service. The facilities and resources of this service are available to New Departure at all times without cost. At intervals, industrial hygiene engineers from the service visit our plants. On such visits they inspect hygienic conditions and discuss with our medical and safety personnel methods for controlling all possible sources of occupational disease.

## Accident Prevention

THE responsibility for certain aspects of safety and accident prevention falls jointly on the plant medical and safety departments. In this respect their programs overlap, particularly with regard to health hazards. It is the duty of the safety staff to become familiar with all processes and operations where health hazards may arise and to report such conditions to the plant physician. In turn, the plant physician makes periodic checks on the health of employees working in areas where hazardous conditions might exist. The safety staff is informed of the findings following such examinations.

Whenever a serious accident occurs, both the department concerned and the plant physician notify the safety department immediately. This procedure "makes assurance double sure" that such cases are investigated promptly and that accident causality is established before the environment has been changed.

First-aid training classes are another vital adjunct to our program at New Departure. The classes are conducted by the medical department in close cooperation with the safety staff. Subjects covered include artificial respiration, control of bleeding, treatment for shock, and movement of injured employee. The close-working relationship between our medical and safety departments is exemplified in these several ways. We believe that this relationship is a primary factor in the continuing success of our efforts to reduce injuries and occupational disease.

## Industrial Medical Service

OUR medical service at New Departure today reflects the changing emphasis which has characterized industrial medicine in recent years —that is, the shift from surgery to preventive medicine. This is attributable to the decline in occupational injuries plus the awareness that much of industry's lost time and labor turnover can be charged to non-occupational sickness.

This realization has led to the development of an active program to eliminate health hazards and to educate employees in the promotion and preservation of good health. Such a program

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

manifestly requires the closest working relationship between medical and safety personnel. It will suffice for me to touch on the highlights of our service here.

Thorough examinations of all employees before hiring and periodically thereafter are a basic item. X-rays, blood tests, and other processes incidental to proper placement are utilized.

Employees are constantly impressed with the importance of having any and all injuries examined and treated when necessary. Emergency treatment for non-factory illnesses and injuries is rendered when the occasion arises. In cases of this kind an employee's personal physician may be contacted. Here I would like to stress that every effort is made to cooperate with, and assist, the private physician where the welfare of employees is involved. Upon request the plant physician will consult with a private doctor, examine a patient of the latter, and supply him with clinical reports, x-ray films or other information.

More recently a growing concern of the plant physician has been his work in the field of human relations. He is available in an advisory capacity to all employees and supervision on medical matters. Frequently the dividing line between medical and personal matters is extremely thin, or indistinguishable. The return of veterans to industry and the influence of psychosomatic medicine are significant factors in this trend.

Here I would like to pay special tribute to the role of the industrial nurse in our medical organization. As a result of the increased work load, our nurses today exercise a high degree of responsibility. To a considerable extent they operate on their own and are guided by their own judgment. One point will illustrate clearly the reason for this. From 1943 through 1947 the medical department of our Bristol plant alone recorded more than 650,000 visitations. Quite obviously it would be beyond the means of any physician to handle such a volume of calls personally. The nurse, as intermediary, shoulders a major part of this burden and screens those cases which do not require the doctor's personal attention. Her contribution to the successful functioning of any industrial medical unit cannot be praised too highly.

## Opportunities for Research

IT IS superfluous for me to point out to you what a fertile field for research industrial medicine offers. At New Departure we are at present endeavoring to enlarge the scope of our research and to determine practical applications for the result of such work. As a concrete example of this, I cite the recent paper on spinal defects by our plant physician, DR. PRESTON BARTON.[1]

Earlier I referred to studies under way on various lubricants which in their present composition may cause varying degrees of dermatitis.

We are constantly engaged in research which serves to refine our program for the selection and placement of all new employees. As our manufacturing methods develop, the physical demands of the jobs change along with other factors; full utilization of all skills and abilities of our employees necessitates a continual analysis of these requirements.

Preparing elderly employees for retirement is another problem to which we have devoted time and study recently. The outcome is a definite retirement procedure outlined in specific steps and applicable throughout the division. The objective of the plan is to assist employees in adjusting themselves to their impending retirement and to minimize any psychological reactions.

These few examples demonstrate briefly the extent to which research is employed in our organization. The field is broad and inviting, and we expect to plow many more furrows in it.

## In-Plant Fellowship Program

RECENTLY this division was one of several chosen by the corporation to develop a program for the corporation's "Physicians in Training" plan (In-Plant Fellowship Program). This plan calls for the medical section to accept physicians for training in occupational medicine under direction of the plant physician. New Departure was selected because its industrial operations are sufficiently diverse to provide a comprehensive experience in industrial medicine. Approved by the American College of Surgeons, the medical department is equipped and staffed to cope with every contingency.

Arrangements have been made with the Institute of Occupational Medicine and Hygiene of Yale University School of Medicine to supervise the Fellowship Program. Formal studies at Yale Medical School have been projected to complement the experience gained at New Departure.

Eligibility for appointment requires graduation with a creditable academic standing from a class A medical school, completion of one year rotating internship at an approved hospital, and an evidenced interest in occupational medicine and hygiene. The period of training under the fellowship is one year, and trainees receive a fellowship stipend during this time. Upon completion of the fellowship, opportunities in the permanent General Motors medical organization may become available. It is believed that this program is the first of its kind to be instituted in America.

In closing, I would like to leave this thought with you. You physicians in industry today occupy a very special position. In one respect you are a member of management responsible to your boss. At the same time you are on your own to an appreciable degree. Your work requires many decisions which only you can make in the light of your professional knowledge and experience.

Few others in industry enjoy such a high degree of self-determination in their work. This unique position presents a definite challenge to the doctor; his job and influence in the plant are to a large extent what he wants to make them.

---

1. BARTON, PRESTON N., M.D.: "The Significance of Anatomical Defects of the Lower Spine." INDUSTRIAL MEDICINE, 17:2, 37-40, February, 1948.

# Safety

EVERETT W. MARTIN,
Safety Engineer, Liberty Mutual Insurance Company,
and Past President, Connecticut Safety Society

YOU HAVE only to look at your morning paper to realize that we live today in an age of great paradox. On the one hand you can observe a cheapness of human life comparable to that of the middle ages; on the other hand you can observe gigantic efforts to preserve life, an effort which now reaches into the lives of all of us. This meeting here today is but one indication of the effort that is being made to preserve life. The safety movement as we understand it has been part of that effort. It is young, it is true, in years. It does not have the professional standing of the medical profession, or the nursing profession. Work of safety men has been limited to the past 35 years and the goals which they seek are in many cases in the distance. Some of you are familiar with the problems of industrial safety over a period of years, others of you may not have come into contact with plant safety activities; many of you may even be very skeptical as to the results which can be obtained in accident prevention. We accept this skepticism —it is the beginning of most mature belief.

The industrial safety movement has, I believe, gone through three stages. The first stage, for lack of a better phrase, can be called "the bag of bones and a bucket of blood stage." This is because machine accidents as such were so severe, so gruesome in the early years that they served to call to the attention of people the problem of accidents in manufacturing plants. Many cripples were observed during those years and were actually a living evidence of the result of accidents. It is natural then that the first attempts at safety in plants should be concerned with machine guarding, and so that stage was the first in accident prevention work. Shielding of nip-points, the guarding of gears, guards at point of operation—all of these attempted to prevent machine accidents and as such during 35 years have reduced the percentage of machine accidents from one-third of the total to approximately one-tenth of the total.

As it became evident that a large percentage of accidents were not the result of machinery there developed a second stage which could be called the "safety committee" stage of industrial accident prevention. It might also be called the educational stage, since it attempted to educate management, supervisory force and the employees in the correction of unsafe conditions and unsafe practices by the use of safety committees with a view toward eliminating many of the non-mechanical accidents which form so great a part of the total.

Both of these approaches to accident prevention still remain as a necessary part of all preventive activities, but it was not until the third stage arrived in this work that we could begin to feel that industrial accident prevention has "come of age."

This third stage, and one which we are just beginning, involves the integration of safety activity within every phase of plant operation. It means that safety must be a part of the thoughts of plant management; the staff organizations such as purchasing agents, production control men, methods engineers; the line organization, which includes the supervisory force; all employees; and, last but not least, those who serve the employees in the many services, such as doctors and nurses. In reality the reason we are gathered here today is to try to coordinate the work of doctors, nurses and safety people, and it is an indication of the integration which is taking place in the field. Only by a complete integration of our services can we reach the desired result in accident prevention, and only by a close bond of cooperation can we arrive at the desired integration.

NOW there are a number of things which doctors can do to aid in the prevention of accidents in plants as well as in the prevention of occupational disease.

1. Certainly the doctor shauld have some understanding of what goes on in the plant, and the only way to get that is periodically to take a trip through the manufacturing operations. In this way he will understand better what is told to him by his patients and will also understand the hazards of industry and the particular places where hazardous operations are carried on. He may also understand better the uses to which various toxic materials are put.

2. In the treatment of patients, he has an excellent opportunity to urge compliance with safety rules, the use of protective clothing, and the establishment of a general attitude of prevention.

3. He should, I think, in large plants serve as a member of the plant's safety committee to give his best advice and opinions on medical problems for the benefit of the entire plant.

4. He should seek the opinions of industrial hygienists and safety engineers on specific operations involving exposure to occupational diseases in order that he may more properly evaluate and properly diagnose.

5. He should have at his disposal a complete record of all toxic materials entering the plant and know how they are to be used, and keep under his surveillance areas where there may be possible trouble.

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

6. In both pre-placement and re-examination he should keep in mind the job which is to be filled and should have at his disposal a record of the physical demands of the particular job involved.

7. The causes of many accidents still remain obscure and may be clarified in many instances by an alert physician during the treatment of his patient. The only purpose an accident serves is to illuminate a cause which may be used to prevent further accidents of the same type. True cause can often be obtained by the doctor.

8. By careful medical supervision of hazardous areas, particularly those areas involving possible exposure to occupational disease, the doctor can in many instances eliminate the possibility of occupational disease entirely. It should be remembered that practcially every plant uses some toxic materials, and almost without exception these toxic materials can be kept under control.

Now as to the work of the industrial nurses I can only say that I have always found them most eager and very willing to contribute to the accident prevention efforts undertaken in the plants where they work.

Many of the objectives of the safety engineer and the nurse are similar. Both are interested in eliminating causes of lost time that arise out of illness or injury. A common objective is to protect and maintain the physical well-being of all employees. I believe that in most plants there is excellent cooperation between nurses and safety people.

Here again it is necessary to have the nurse or nurses in a plant know what goes on in the manufacturing operations. Some plants make a practice of periodic inspections, the nurse and safety engineer going together to view the plant operations. These routine inspections can be made on a definite time schedule. Often these inspections are assigned to an industrial nurse. In small plants there may be nurses who view the manufacturing operations every day. In larger plants of course visits can not be made so often. Observations can be made of unsafe practices, use of protective devices, fatigue factors, lighting, sanitary facilities, restrooms, lunchrooms, lunchroom facilities, emergency first-aid equipment. Suggestions are then reported in writing to a representative of the firm who renders decisions in such matters.

Accurate records made by the nurse provide a valuable record for the safety engineer. The day log helps to show the trend of reported cases, and the monthly medical report which is often made by a nurse will give the breakdown of reported cases by departments and by type and whether they are industrial or non-industrial.

Where one department shows a large number of a particular type of case it may be an indication for medical or safety control. The nurse's report should be part of the safety committee record. Certainly the up-to-date industrial nurse is constantly reading current medical literature to learn the signs and symptoms of hazards, and she ought to be able to recognize occupational illness when employees report for first aid. She will also learn to utilize her initiative and ability.

There is one other problem which I believe should be commented upon, and that is the problem of personality involved in the work of the doctor and the industrial nurse. Most successful manufacturing plants are an integrated whole, that is, there is constant cooperation among all groups in the plant to promote the efficiency and effectiveness of the manufacturing operations carried on. The industrial nurse and the physician who is servicing the plant should, I think, become a part of that group. They should take a personal interest in the plant as a whole and, in so far as possible, they should treat the individuals within that plant in the way they would treat private patients. In other words, in becoming part of the plant, in their endeavors to keep the whole group as safe and healthy as possible they are performing one of the most valuable services in the efficient production of goods.

Also their great value is in treating people as individuals. Many men and women are completely lost as individuals in plants. Many feel themselves to be cogs in a wheel, and rather small cogs at that. If the doctor and the nurse treat these people as individuals and take a personal interest in them as individuals it serves a very great need and as such makes a most valuable contribution.

In indicating to you that much more can be done to prevent accidents I would be remiss if I did not say that I thought the work of safety in industrial plants has thus far been most effective. Accidents that were the rule in many plants years ago are now the exception. We no longer see the great number of mangled people in industry, people without fingers, without arms, without legs. We have learned that accidents are not a necessary concomitant of industry. The old rules of a death for every mile of track laid and a death for every floor of a building constructed no longer obtain. We no longer fill cemeteries with those dead of occupational disease. Industry no longer expects to have human waste as its by-product. You have helped to make it so.

# Medicine

C. W. GOFF, M.D., F.A.A.O.S.,
Hartford, Connecticut

MY WORK as an orthopedic consultant, enables me to bring to you the viewpoint of one who sees and cares for the injured man. I come into the picture when the worst has happened. Care of the injured man begins immediately, and his rehabilitation starts at the same time. Most injuries are cared for by those doing part-time or full-time traumatic surgery. Such surgeons are doing fine work. Their task constitutes the greatest challenge.

There were 19,000 amputations occurring among military personnel during World War II while during the same span of four years there were 120,000 amputations among the civilian population. Fifteen hundred men were blinded in the military service. During the same time 60,000 civilians lost their eyesight. Two hundred and sixty-five thousand were permanently disabled in the war effort, but 1,250,000 civilians were permanently disabled by diseases and accidents during the same four years. It has been estimated that there are 23 million persons in the United States suffering from some handicap. What a tremendous task we have before us.

MAY I suggest a few over-all considerations in our cooperation with other departments and agencies in this tremendous problem. Everyone wants something pleasant to happen to him which must be free from pain. This calls for an approach to the injured man, of great encouragement immediately after the accident. Disabled persons must be convinced that they can help themselves and that they are receiving the best care. Then, such a conviction will produce motivation and start them toward a rapid recovery. All injured people must be treated optimistically. They must be told only as much as they can intelligently absorb concerning their injury. They all believe somewhat in the mystery of medicine. If you tell a man that his back is broken, no matter what the situation might be, he will have great difficulty in overcoming the initial impression. It goes without saying, injured people must be given courage, understanding and hope. As physicians, we must treat the man as a whole while treating him separately. This approach is especially valuable in convalescent care during which time stress must be placed upon activity as a definite form of treatment. Disabled people must be dehospitalized early. General hospitals, as a rule, fall far short of what they might perform in this early rehabilitation program.

THE industrial nursing staff is probably the most important link in caring for disabled people. The nurse generally sees the injured man before the physician. The nurse wields great power on our cooperative team. She must know her limitations and stop short of them. A physician should supervise nursing assistance. An industrial plant that has a nurse in attendance must, of course, have access to physician supervision at all times. She must never take a chance. I also hope, she will never offer an opinion prior to consulting with the physician concerning the disabled person's disturbance. All of us know that people seem to prefer the opinion of the nurse to that of the physician. She, therefore, must never talk. The good nurse is seen but not heard. This sounds rather trite, but it is the only way for her to work on our team. Her many virtues are too obvious to mention. Who of us has not relied on her skill and understanding as well as her capable handling of many difficult situations.

I HAVE had very little contact with the safety counsellor of industry. He is the silent worker, as a rule, on our treatment team for the disabled person. When a man is injured the safety counsellor has failed. Every injury, therefore, constitutes a challenge to him. Human behavior, being what it is, will always cut corners, leave guards unused, take unnecessary chances—and then comes the accident. The safety counsellor is the teacher who never becomes discouraged. but keeps on working. I believe he should have more teeth in his regulations. While it is true that an injured individual has already been penalized or has already paid a high price for his or her mistake, would it not be in keeping with accident prevention to withhold some reward, because that individual's no-accident record has been broken?

THE employer, as represented by management, has the most difficult job of all. He has to pay for everything. The employer is expected to be a great humanitarian, understanding all the weaknesses and prejudices of mankind. Frequently, he fills this tall order to capacity. Sometimes he does not. From my viewpoint the weak spot in his armor is the foreman. There are too many reasons why a foreman is not interested in rehabilitating a workman. In the first place, he is not trained for rehabilitation work, but rather for production, and intense production at that. Why should we expect such a foreman to change his viewpoint. Some of them combine all of the good qualities, but many more do not. The answer, to me, is obvious. If the pressure from above is continuous, as it generally is, for him to get out more work, how can he do otherwise. If I operate upon an injured man and restore him as a reasonably good working unit, I expect some cooperation from the man's foreman in putting him back on the job. All too frequently, the fore-

Given at the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, Hartford, Connecticut, May 27, 1948.

man blocks this end result. No one is able to return after a major injury and start off full blast the first week. Everyone in this audience would have a backache if he had to lay flooring for two hours. Thus, the horns of a dilemma. To resolve this dilemma, may I suggest that industry accept more universally, work tolerance tests or physical fitness tests. These can be predetermined for the injured man and given to the foreman to accept officially. The foreman must act as a team member in this rehabilitation process. Interestingly enough if the injured man is his brother-in-law, he finds little difficulty in helping him; if, on the other hand, the foreman does not particularly like the injured man he probably does nothing to assist him in adjusting to work.

OLDER workers in industry should be given greater opportunities than now appears to be possible. The older worker has been found to be more stable, more dependable, more loyal and responsible. There is less labor turnover among the aged. More accidents occur between ages 20 and 30 than during any other age period. Occupation mobility takes place under the age of 35, with those older relatively reluctant to shift jobs. Older workers are less absent from work. While it is true that the number of days of disability per worker and the percentage of disabled workers increase with age, it is also true that the number of disabilities per man decreases. Accidents occur less frequently. At 40 one should prepare to retire at 60, or for an easier job. Therefore, at 40, or shortly thereafter, industry should begin to train everyone to carry on in some capacity beyond 60. Much production appears to be lost and the blame is frequently placed upon the physician because he cannot return the older worker to a gainful occupation in the same capacity as is required by industry. If a straw can break a camel's back, an accident may throw an older worker completely off the beam. May I suggest part-time utilization of the older worker, making special use of his additional skill and reliability.

IN THE role of employer and management, I frequently have to deal with representatives of the insurance carriers. All too often I find they are serving essentially as brokers or bankers. Their problems are actually those of social workers. All too frequently the adjuster is not properly equipped by training to assume this role. Many, however, are quite effective. Among those I have found the most effective are women adjusters. May I urge the insurance carriers to employ more of them for better and more rapid results.

Lastly, may I make a plea for all physicians on our rehabilitation team. You are frequently dismayed and so am I at their failure to act and think with the same degrees of logic. We must not forget that all physicians are biased, just as you all are. We take in our biases or our prejudices in early childhood. These defy all logical analyses. As physicians and scientists, we honestly try to be objective, but our many prejudices come unconsciously into our field of reasoning. We can, however, think together if given a proper opportunity. Put us in a room with a medicolegal problem and likely as not we will come out with a unified opinion. Our legal brethren are not in the slightest interested in having us get together as physicians. If they can keep us apart, they can further a controversy on which they thrive. The Compensation Act is all too frequently debauched under these circumstances.

I HOPE I have contributed something of a controversial character upon which our panel discussion can be based. With cross pollenization of ideas such as we have here today, we will produce new and better species of solutions. Such is evolution.

# George Martin Kober, M. D.
## — His Life and Deeds —

ROBERT T. LEGGE, M.D.,
Berkeley, California

ON ONE of my journeys to the nation's capitol at Washington it was my privilege to spend an afternoon at the old Georgetown University Medical School to interview that grandest of men, the venerable DEAN GEORGE M. KOBER, a pioneer in industrial hygiene. He was seated at his desk which was piled high with papers and journals, and there were stacks of books on the floor next to the chair where he interviewed students and cordially received visitors. This friendly chat occurred in 1927, the year before he retired. Our conversation began on the discussion of academic problems pertaining to the introduction of the teaching of industrial medicine and hygiene into the medical curriculum, a subject we were both interested in. Then we talked of the rapid advancements made in preventive medicine and surgery, and in industrial physiology and toxicology since the dawn of the 20th century; progress which we both had witnessed and actively promoted through the organization of American industrial hygiene. One subject after another was discussed and memories recalled of long experience and ever-growing interest in significant new world problems. As this fascinating interview neared a close I inquired if he had ever visited California. He replied "Yes, once as a young graduate in medicine I was commissioned as assistant surgeon in the U. S. Army and ordered into active service in the Modoc Indian War, the only major Indian war ever fought in California, in the year 1873-74." He vividly related his story of the country and the places the army traveled in its pursuit of the Indians, which culminated after a hard campaign in the defeat of the warriors in the lava beds of Modoc County. I told him I was familiar with much of the country he described as I had been industrial surgeon for the McCloud River Lumber Company, 1899 to 1914, at McCloud, Siskiyou County, which adjoined Modoc County, and had practised medicine at some of the places where he had camped, and on roads which he had traveled with the army in the Modoc Indian War campaign.

George Martin Kober, M.D.

During my vacation in the summer of 1947, just 20 years later, I motored to the Lava Beds National Monument, in the county in which the Modoc Indian War was fought. This place embraces 45,000 acres in the extreme northeastern part of California near the Oregon line. Much of the surface of this region is formed by billowy slag-like lava which once flowed out from great fissures in the earth's crust. This region of comparatively recent volcanic activity, believed to have occurred about 300 years ago, contains numerous lava flows, caves, craters, fumaroles, or chimneys from which steam and gases escaped.

There is evidence that the entire lava bed region was occupied by an ancient people, for in the caves and on the sides of the natural bridges are found pictographs and carvings on the stone. When the white man first came it was occupied by the southern division of the Modoc Indians, which, with the Klamaths in Southern Oregon, belonged to the Lithuamian tribe. In ceding their territory to the U. S. in 1864 the Modocs were moved to the Klamath reservation but were never contented and made persistent efforts to return to their former homes away from their ancient enemies, a condition which brought about a costly war. In this conflict the Modoc warriors, under their chief Captain Jack, repeatedly repulsed far superior numbers of U. S. soldiers and inflicted grave losses while sustaining practically none themselves. The rugged topography of the region formed the greatest obstacles the soldiers encountered. Making their way across depressions and cracks in the lava flows, they were good targets for the Indians hidden in similar natural fortifications. The point at which the major battle was fought was known as Captain Jack's Stronghold. The old fortifications used by the soldiers, and behind a bluff where the field hospital was stationed, and still in place, provide mute evidence of the long struggle which did not cease until the water supply of the Indians was cut off by the troops. Captain Jack and the other Indian leaders were eventually captured and hanged.

It was here that DR. KOBER saw his first active service as a military surgeon. A short distance from what was the U. S. Army Headquarters is the Canby Cross which marks the spot where General E. R. S. Canby, USA, and a chaplain were killed on April 11, 1873. Upon leaving the lava beds by the southern road we motored to old Fort Canby which was the Army post and supply base. We then continued on to Bieber in Lassen County before descending to the Pitt River country. Here from a high elevation is seen in the northwest the snow-capped Mt. Shasta and to the

The Canby Cross

Soldier Mountain

south Mt. Lassen, the only active volcano in the U. S. It was at this same point my good fortune while on a professional call on the early morning of May 30, 1914, to witness Mt. Lassen in eruption, the first eruption since the white man's coming. Nearby, a few miles from Fall River Mills is Soldier Mountain used by the Army as a lookout, where DR. KOBER camped and had a field hospital. He told me that while stationed here he filed on some government land and acquired title, from which he had been receiving an annual income through all the years since.

THIS narrative would not be complete without presenting a short sketch of the man himself. GEORGE MARTIN KOBER, M.D., was born in Germany on March 28, 1850; received his M.D. at Georgetown University in 1873; was commissioned acting surgeon in the U. S. Army 1874-1886; was Professor of Hygiene and later Dean of the Georgetown University School of Medicine, 1901 to 1928; and was the recipient of two honorary degrees, Ll.D. and Litt.D. He was also a member of the Board of Regents of his university. President Theodore Roosevelt appointed him a member of the Executive Committee of the President's Home Commission. In his report to Surgeon General George M. Sternberg, the Chairman, which expressed his tender feelings as a true humanitarian, he said, "The question of health is intimately connected with the physical, social, and moral welfare of the human race, and plays an important role of prosperity for countless numbers of our fellow beings whose only income is the product of their daily labor. It will be readily conceded that health is the chief asset of the workingman; that no greater calamity can befall him than when his earning capacity is impaired or arrested by reason of sickness or disability. It means in many instances the utter financial ruin of the family and is doubtless one of the potent causes of want and poverty.

"Men who come in daily contact with sickness and distress can not fail to experience deep sympathy for their fellow men, which is all the more profound when they realize that many of the diseases are preventable and much of the terrible suffering cruelly unnecessary."

While a member of this Commission, DR. KOBER became inspired to publish his first book, "Industrial and Personal Hygiene," 1908. He was chosen president in 1913 of the Section on Occupational Hygiene at the 15th International Congress of Hygiene and Demography, and in 1915 he was Chairman of the Section on Industrial Hygiene, American Public Health Association. In 1916 there was published by KOBER and HANSEN the first monumental work on "Diseases of Occupation and Vocational Hygiene" in America. This was followed in 1920 by "Tuberculosis in Relation to Occupation." Finally in 1923, with DR. EMERY R. HAYHURST, of Ohio, was published their masterpiece, "Industrial Health," a work that remains a classic.

ON APRIL 24, 1931, this eminent pioneer physician, soldier, teacher, and humanitarian passed away, beloved by his students and the members of the profession, and leaving an enviable heritage as a man of distinction in the history of American medicine.

# Photosensitizing Properties of Some Petroleum Solvents

JOHN E. DUNN, Senior Surgeon,
and
FREDERICK S. BRACKETT, Principal Physicist,
Laboratory of Physical Biology,
National Institute of Health,
Bethesda, Maryland

DURING the recent war the manufacture of aviation gasoline made available large quantities of petroleum derivatives, and efforts were made to find use for some of these materials in other phases of the war effort. One of the uses considered for these materials was as solvents for DDT in the extensive application that was made of this compound in certain military theaters. In addition to the solvent properties of these petroleum derivatives, it was necessary to consider their toxic hazards in order that proper methods of handling could be adopted. One phase of this was the potential danger from cutaneous exposure. The aspect of this to be considered here is the photosensitizing property that certain of these products exhibited.

This group of solvents[1] were characterized as consisting primarily of methylated naphthalenes. They varied considerably in their physical appearance from a very dark brown to a light straw color, depending on the degree of refinement. In general, it can be said that their primary irritant action on the skin increased directly with the degree of refinement, whereas the reverse was true of the photosensitizing action. Apparently the cruder materials contained a tarry residue with a photosensitizing constituent.

## Methods

### HUMAN TESTS

The usual patch test procedure was used in applying these materials to the skin of human volunteer subjects. A circular gauze patch, four-ply thick, and 0.5 inch in diameter was wetted with the solvent, applied to the skin, and covered with a cellophane lined commercially available adhesive patch. The ventrum of the arms or the forearms were used as test sites. It was planned originally to leave the patch tests on the skin for 24 hours but this was not feasible. It was found that one hour application was adequate for the photosensitivity tests and that this short period of exposure kept the primary irritant action of the more active solvents at a minimum. The degree of this latter effect was evaluated in such cases by applying two tests with the solvent, one of which was not irradiated. After removing the patch test, the skin area was cleansed with acetone to remove excess material and about a half hour allowed to elapse before beginning irradiation to allow the temporary effect of removing the patch and cleansing the skin to subside. The importance of removing the excess material became obvious in the first tests when it was found that this excess protected the skin from the effect of the radiation.

Unfortunately a readily available carbon arc was first used as a radiation source and positive results were gotten with the first solvents tested. The conditions of irradiation were chosen so that the exposure produced no more than a slight to moderate erythema of normal skin around the patch test site so that any increase in erythema of the latter would be apparent. The spectral distribution of the light source was not determined, but it became obvious that the energy available in the region of the action spectrum of the unknown photosensitizing substance was inadequate when one subject noted that sun exposure increased the reaction of a patch test site of one of the materials that had not given a clear cut effect with the carbon arc exposure.

All subsequent tests were done with direct sunlight as a radiation source. An exposure period of 30 to 45 minutes to the noonday sun was used unless photosensitization was obvious in a shorter period by visible reaction and an unpleasant subjective prickling sensation. The exposure had to be terminated in five to 10 minutes with the more active of the solvents. The test sites were observed immediately after exposure, several hours later, and the next day.

### ACTION SPECTRUM DETERMINATION

In an effort to determine the action spectrum of the unknown photosensitizing material contained in some of these solvents, a number of exposures to sunlight through various filters were made using human subjects, patch tested as described above. One of the milder photosensitizing solvents (a) was chosen, and because of its amber color, blue violet or ultraviolet were suspected. A sequence of short-wave cut-off filters was employed removing progressively increasing amounts of the short wave length region from 2800 to 5000Å. This sequence is shown in Fig. I. Twelve individuals each received four patch tests on the upper arm with the solvent, the test sites being numbered 1 to 4. One of the patch test areas (No. 4) was covered with color filters on eight of the 12 subjects, the No. 4 area of the other four subjects being uncovered for comparative control. The four patch test

The results of this investigation were presented in part at the Eighth Annual Meeting of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, April 26 to May 4, 1947, Buffalo, New York.

1. Actually two of the solvents studied came from coal as a source, but for the purposes of this report they need not be considered separately.

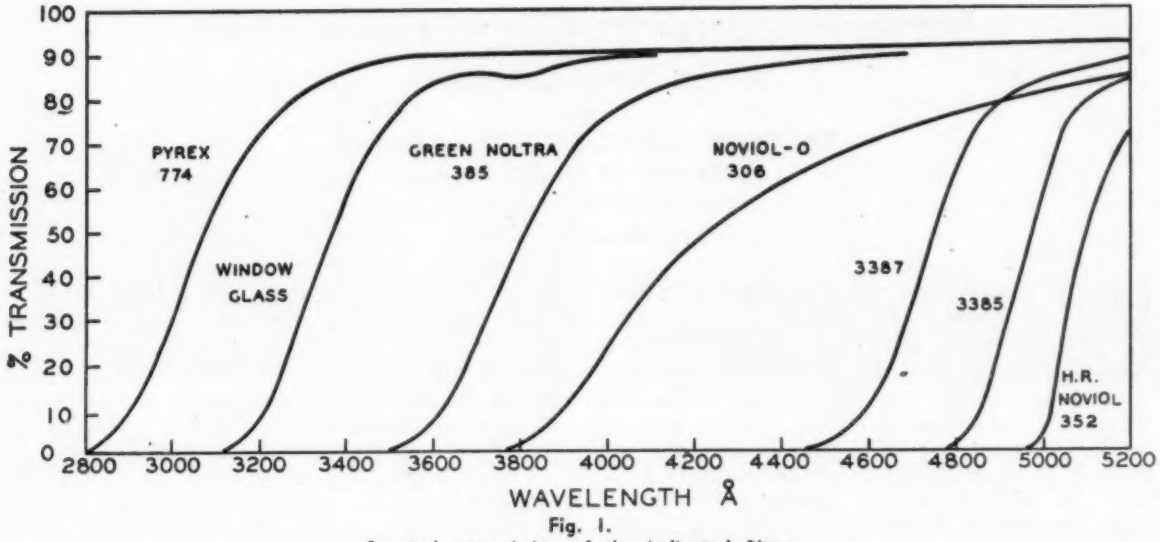



Fig. 1.
Spectral transmission of the indicated filters

areas were then exposed to sun irradiation, the time of exposure for each of the four areas being varied as follows:

| Patch | No. 1 | No. 2 | No. 3 | No. 4 |
|---|---|---|---|---|
| Minutes | 0 | 10 | 20 | 40 |

By using the No. 4 patch test site for filtered irradiation, it was possible to compare the reaction intensity, if it occurred through the filter, with the degree of reaction for various periods of unfiltered exposure on the same individual.

A roughly calibrated titanium click counter (dosometer) indicated that 12 to 15 minutes exposure was required for minimal perceptible erythema of normal skin during the period of time the subjects were exposed to the sun. Thus the No. 4 patch test areas received some three times the minimum on those individuals not provided with filters.

In addition to the filtered irradiation to determine the region of the action spectrum of the photosensitizing material in the one solvent, absorption spectra were determined for all the solvents for comparison with the results of the photosensitization tests.

When it became clear from the action spectrum determination based on the photosensitivity effect that the degree of absorption in a certain region was correlated with the intensity of reaction, an attempt was made to eliminate the photosensitizing substance from certain solvents by various forms of treatment.

## Results

### HUMAN TESTS

*Unfiltered Radiation:* Of the eight solvents tested, three were found to have no demonstrable photosensitizing effect under the conditions of test; one had a questionable effect; one produced a slight effect; one had a marked effect; and

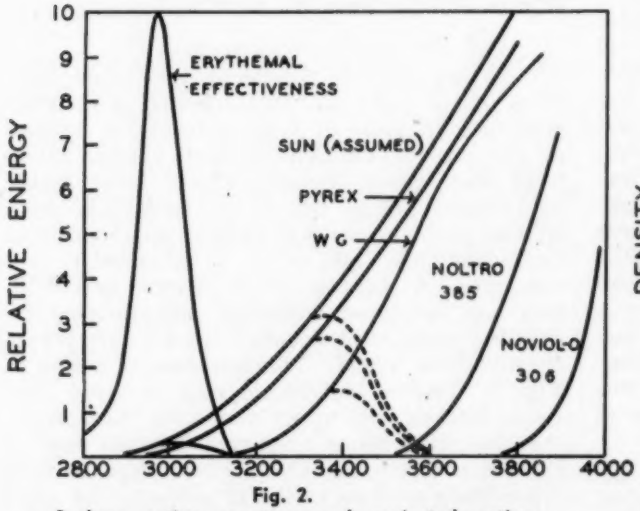



Fig. 2.
Sunburn action spectrum and projected action spectrum (dotted lines) of photosensitivity effect from results with solvent (a) and use of cut-off filters

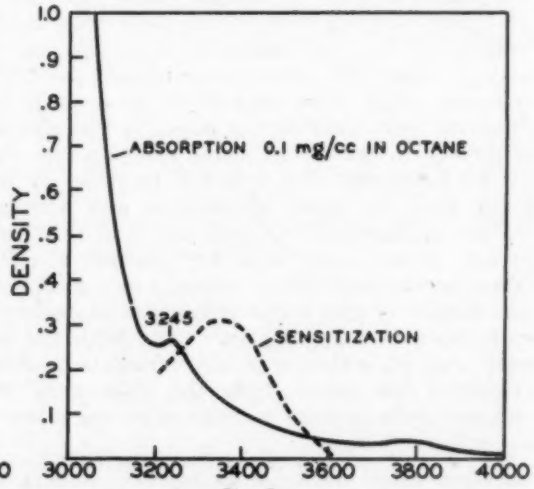



Fig. 3.
Absorption spectrum of solvent (a) (from Fig. 4) and the projected action spectrum for photosensitivity effect as determined from results using cut-off filters

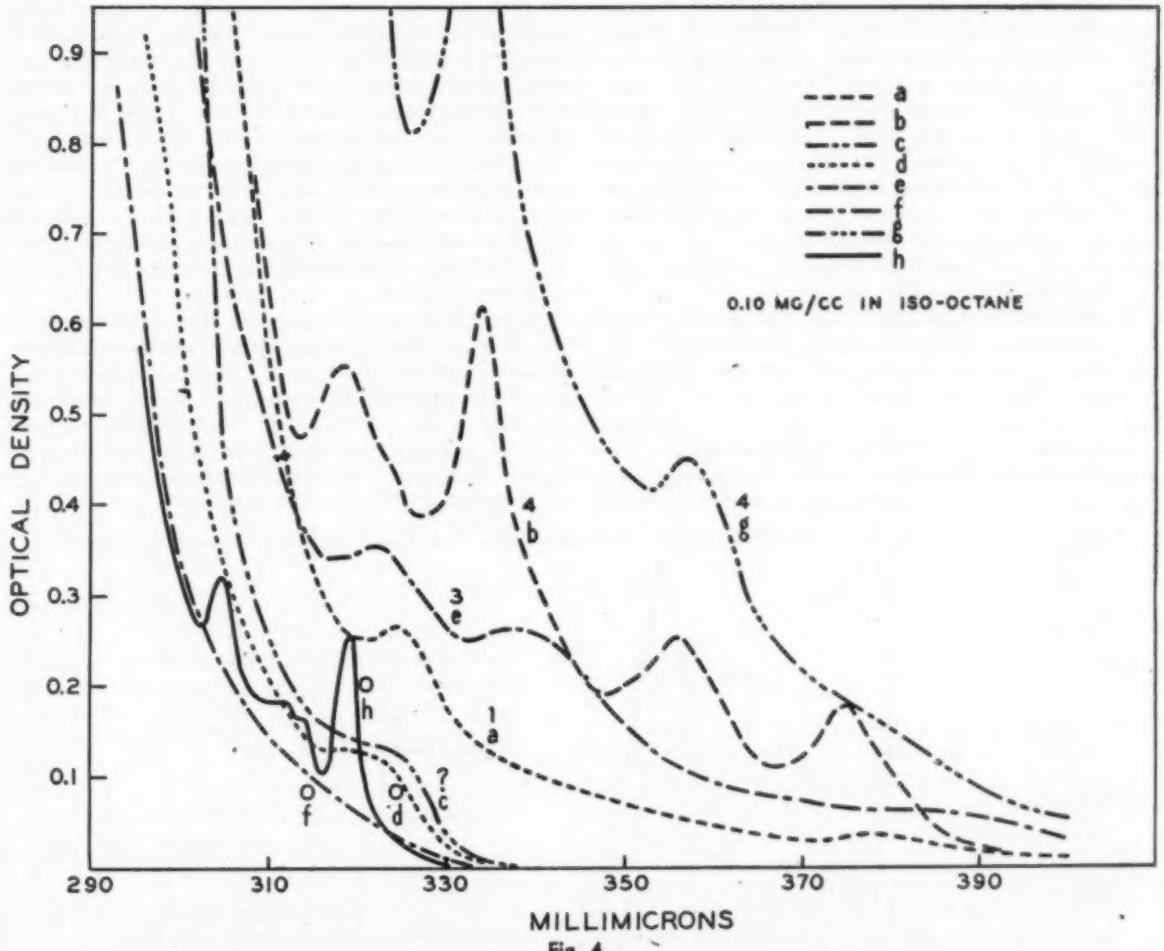



Fig. 4.
Absorption spectra for indicated solvents and rating of the solvents on the basis of photosensitivity tests (0 = none; 1 = least effect; 4 = most effect)

two a very marked effect. In Table I is shown the grading of the solvents, using a rating of four for maximum effect, both as to primary irritation and also as to photosensitizing action. It will be noted that these two effects tended to vary inversely with each other.

TABLE I.
RELATIVE PRIMARY IRRITANT AND PHOTOSENSITIZING PROPERTIES OF THE INDICATED SOLVENTS FOR HUMAN SKIN

| Solvent | Primary Irritation | Photosensitization |
|---|---|---|
| (a) | 0 | 1 |
| (b) | 0 | 4 |
| (c) | 1 to 2 | < 1 |
| (d) | 1 to 2 | 0 |
| (e) | 3 | 3 |
| (f) | 4 | 0 |
| (g) | 1 | 4 |
| (h) | 2 to 3 | 0 |

GRADINGS: 0—no effect; 1—least effect; 4—most effect

The most powerful photosensitizing solvents were easily recognized during the period of irradiation. The subject began complaining in a few minutes of an unpleasant prickling sensation, and an erythematous reaction soon became obvious. It was necessary to terminate these exposures after five to 10 minutes. In some instances the patched area showed a marked edema at this time with the *pig-skin* appearance such as is seen after an intracutaneous injection. The erythema of those tests giving a photosensitivity effect was most easily evaluated three or four hours after exposure, but had faded only slightly by the next day. A subsequent pigmentation developed at the sites of the more intense reactions. The sun exposure produced no recognizable effect or a barely perceptible erythema of normal untreated skin.

The use of the sun as a radiation source extended through the late summer and fall. Since the solar radiation proved consistently effective through this extended period, and also because of the relative ineffectiveness of the carbon arc, it seemed likely that the action spectrum of the unknown photosensitizing compound or compounds must be in a region of longer wave lengths than the sunburn spectrum and shorter than that visible region which is so strong in the carbon arc.

*Filtered Irradiation:* The titanium click coun-

ter indicated that the 12 subjects used for filtered radiation exposure received some three times the threshold erythemal dose on the test site receiving the longest exposure (No. 4). The subjects varied in complexion, and the upper arms were used to obtain skin that was the least tanned. Two individuals of light complexion showed mild erythema of normal untreated skin surrounding the No. 4 test site an hour after exposure which became somewhat more intense at the four-hour inspection. Others showed less effect, and in some cases none at all.

Filters 352, 3385, 3387 and 306 offered complete protection from photosensitizing effect. Filter 385—greenish noltra, showed the slightest trace of action at the one-hour inspection, but no trace could be found after four hours. Thirty-six-hundred Å is therefore regarded as the approximate threshold of the action. Ordinary window glass, however, permitted the development of redness and itching which was judged to be slightly more severe than the uncovered patch exposed for half the time. This suggests a maximum in the vicinity of 3400 to 3450 Å. Filter 774—pyrex permitted an action markedly more definite than the 20 minute uncovered patch on the same individual. Compared with the control individuals receiving 40 minutes unfiltered exposure to the No. 4 test site, it was estimated there was 80 to 90% effectiveness through pyrex. This indicates a maximum activity in the region of 3300 to 3400 Å.

In order to better visualize the significance of the use of filters, approximate energy distributions are shown in Fig. 2. A probable solar energy distribution is assumed, shown by curve marked "Sun." With such a distribution pyrex should transmit the next curve indicated by solid lines. Similarly for window glass marked "W. G.," filters 385 and 306, respectively.

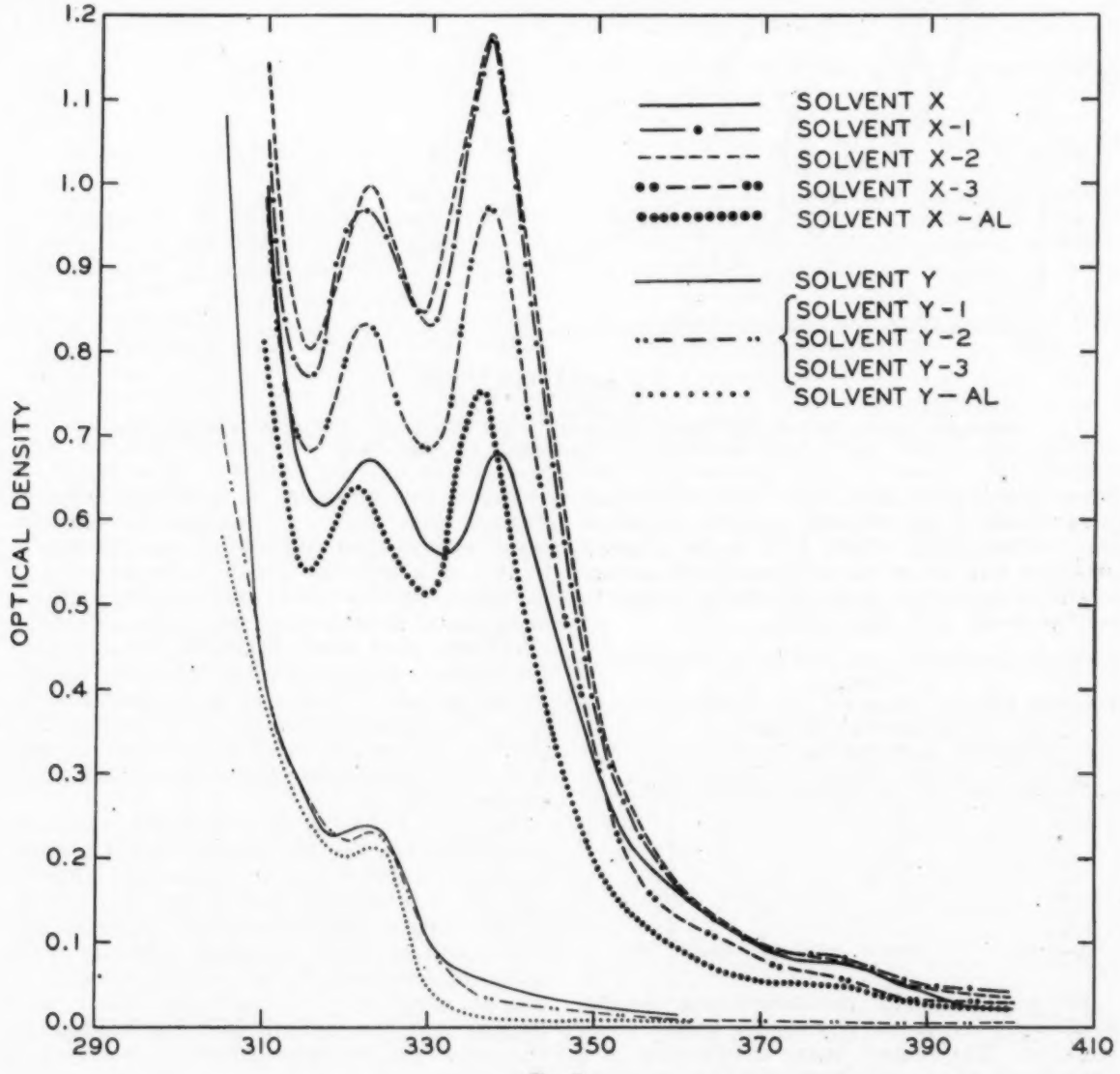



Fig. 5.
Absorption spectra for solvents x and y, and the various products of treatment of these solvents (see text)

Assuming a threshold at 3600 Å, the action would be limited in effectiveness on the long wave side as shown by the dotted lines in each case. It will be seen that these curves are in complete harmony with all observations. It should also be noted that while pyrex transmits energy in the region of normal erythema, it reduces the amount from three to four fold. Thus with only three times the minimal perceptible erythema dose on the exposed portion of area No. 4, the area covered by pyrex would be below the minimum. This is in accordance with the observations of untreated skin exposed through this filter. The solvent treated area, however, showed an effect nearly as great (80 to 90%) as any observed. This observation offers further evidence that the sensitization is most marked at longer wave lengths than normal erythema.

Fig. 3 shows the absorption curve for solvent (a) taken from Fig. 4, together with the estimated action spectrum for the unknown photosensitizing substance it contains.

ABSORPTION CURVES OF SOLVENTS

In Fig. 4 is shown the absorption curves for the entire group of solvents. In the region of 3300 to 3600 Å, it will be noted that a number of the solvents showed absorption maxima. This is the region where the photosensitizing action spectrum was maximum. If the solvents are rated according to the degree of absorption in this region, it will be noted that this is in agreement with their ratings as photosensitizers (see Table I).

### Effects of Various Treatments

AN ATTEMPT was made to get further information on the nature of the photosensitizing substance present in the base stock from which one series of pertoleum solvents was taken by fractional distillation cuts. The solvents designated (a) and (f) (see Fig. 4) came from this base stock. Two solvents not previously investigated, and to be designated here as (x) and (y), were the subjects of this further study. The fractional distillation range of these four solvents is as follows: (x) 590—760°F; (a) 558—706°F; (y) 494—658°; (f) 375—543°F.

In addition, solvents (x) and (y) were subjected to various forms of treatment in an effort to eliminate the photosensitizing constituent. One form of treatment consisted essentially of adding sulfuric acid to the base stock one, two, or three times, following by Super Filtrol clay and filtration (these will be designated x-1, x-2, x-3, and y-1, y-2, and y-3, respectively). The other involved treatment with $AlCl_3$ and Super Filtrol clay (to be designated x-al and y-al).

HUMAN TESTS

One individual served for the photosensitivity determinations. The mother solvents (x or y) together with their respective treated products were investigated simultaneously so that the effect of various treatments could be compared directly with that of the mother solvent.

Solvent (x) and its group of treatment products were all found to be strong photosensitizers, whereas solvent (y) and its group of treatment products were all found to be mild photosensitizers. During radiation exposure of skin sites treated with the solvent (x) series of solvents, subjective sensations were noted (stinging and prickling) after the first few minutes of exposure, and it was necessary to discontinue this after 25 minutes due to discomfort. The solvent (y) series were exposed for 40 minutes without subjective symptoms and radiation was discontinued because the erythema dose for normal skin had obviously been exceeded.

RESULTS

The photosensitivity reactions from the solvents investigated were comparatively graded as follows:

| | Solvent (x) Series | Solvent (y) Series |
|---|---|---|
| Mother Solvent | 1 | 3 |
| One $H_2SO_4$ treatment | 1 | 1 |
| Two $H_2SO_4$ treatments | 2 | 1 |
| Three $H_2SO_4$ treatments | 3 | 1 |
| $AlCl_3$ treatments | 2 | 2 |
| Three $H_2SO_4$ treatments | 3 | 1 |

The gradings are relative within each series of solvents, the effect increasing with the number, but do not refer to relative intensities between the two groups of solvents, as the solvent (x) series was many times more active than the solvent (y) series.

The spectrographic absorption curves for these solvents is shown in Fig. 5. It will be noted that the solvent (x) group show marked absorption in the region of the action spectrum for the photosensitivity effect (3200-3600 Å), whereas the solvent (y) groups show slight but definite absorption in this region. This is in agreement with the photosensitivity tests. It will be noted also that in the solvent (x) group the various treatments tended to increase the absorption in this region which is in agreement with the photosensitivity results. The solvent treated with sulfuric acid three times shows a decreased absorption over those with one and two treatments which may be a result of removing substances having general absorption through this region without actually representing a decrease in concentration of the photosensitizing substance.

On the other hand, the various treatments of solvent (y) did decrease the absorption in the 3200-3600 Å region, which agrees also with the photosensitivity findings. The discrepancy seems to be the $AlCl_3$ treated product which shows considerable decrease in absorption in the longer wave portion of this region, with little decrease in the shorter wave portion. The photosensitivity results indicated this material was somewhat more active than the sulfuric acid treated products. This discrepancy may be the result of some uncontrolled variable in the photosensitivity tests. On the other hand, the fact that the ab-

sorption maximum between 3300-3500 Å could be practically eliminated and still a definite action observed suggests that a second photosensitizing substance is present whose absorption maximum is in the region of 3230-3240 Å.

## Discussion

THE EVIDENCE presented indicates the less refined* petroleum products investigated contain a skin photosensitizing substance which has an action spectrum with a peak in the region of 3300 to 3400 Å and an upper limit or threshold in the region of 3600 Å. Although the responsible substance was not determined, known photosensitizing compounds found in petroleum and coal tar have action spectra compatible with these findings. It is interesting that the two solvents studied which were derived from coal tar (g and h), were not distinguishable from the solvents from petroleum in photosensitization effect.

The long wave length limitation of the photosensitization action spectrum in our results is quite definite (3600 Å). The short wave limitation is less sharp but from the absorption curves of the non-active solvents (Fig. 4) it can be inferred to lie between 3200 and 3300 Å. Our results are somewhat at variance with those of Forester and Schwartz[1] who considered the photosensitization of coal tar pitch to be activated principally by radiation lying between 3900 and 5000 Å. Their material may well have contained photosensitizing substances not present in ours. Fleisehhauer's results[2] with a coal tar preparation in which the action spectrum was found to lie between 3300 and 5000 Å is not inconsistent with our findings.

The need for careful removal of excess material from the skin surface before attempting to elicit the photosensitizing response, also observed by others,[2] is obvious when it is remembered that the action spectrum for such an effect corresponds with an absorption for the particular compound.

Skin absorption of the photosensitizing material occurs quite rapidly, an hour being sufficient in the work done here. Even shorter periods have been reported sufficient by others. It would be interesting to know how long a period the material remains in the skin in sufficient amount to produce a photosensitization response, and the effect of varying dosage, time before radiation, and radiation intensity.

*The term refinement as used here is rather loose, referring generally to elimination of higher boiling fractions, although in some instances a boiling range fraction had been submitted to other forms of treatment.

## Summary

A GROUP of solvents being considered as vehicles for DDT were studied from the standpoint of their photosensitizing action on the skin.

2. Filtered irradiation studies with one of the solvents indicated a threshold of 3600 Å for the action spectrum with a maximum between 3300 and 3400 Å with possible effect to 3200 Å.

3. Absorption spectra of each of the solvents showed that all solvents having photosensitizing action absorbed in this region, and the degree of absorption varied directly with the intensity of the photosensitizing action.

4. Results with one solvent treated in an effort to remove the photosensitizing substance suggest the presence of a second photosensitizer responsible for the absorption peak in the region of 3230 Å—3240 Å.

[ACKNOWLEDGMENT: The assistance of DR. RUDOLPH F. SIEVERS, formerly with this Laboratory, in performing some of the patch tests, and of MRS. DOROTHY C. PETERSON, who made the spectrographic determinations, is gratefully acknowledged.]

## References

1. FORESTER, H. R., and SCHWARTZ, L.: *Arch. Derm. Syph.*, 39: 55, 1939.

2. FLEISCHHAUER, L.: *Strahlentherapie*, 36: 144, 1930. Quoted in BLUM, H. F.: Photodynamic Action and Diseases Caused by Light. Reinhold Publishing Corp., New York, 1941.

# Who's Who in Industrial Medicine

*"praise forms no part of him, so he is none the worse nor the better for being praised"*

ABOUT a dozen years ago a young physician, all set to establish himself in general practice in his home town, had occasion to look over the medical department of a large eastern company. He ended his visit with the strong and, for him, wholly unexpected impression that industrial medicine "had stature." Later he attended an AAIP&S annual meeting, and met some representative medical directors, whereupon his impression grew into conviction. Among the interesting sequellae is the fact that this same young man and his work are themselves a part of the increased stature industrial medicine has attained since he became identified with it. He, however, is not the subject of this sketch. His will come in season. First is the purpose to go back of his words and examine the "had stature."

WILLIAM ALFRED SAWYER, M.D.

This will be a pleasant study. Much could be said of its scope and intentions, but no more is necessary than that it will deal with men rather than events. Industrial medicine is a world of people. In many respects such a world has "no history—only biography." Its events are expressions of the ideals and motivations of the men who brought them about. Its stature, therefore, is their stature; its aggregate is the sum total of the influences of their personalities upon the substance of its growth; its history is their stories. Remarkable in their stories is a frequent involvement with the mysterious influences which, through all the long development of industrial medicine, seem so often and so strikingly to have prepared the man and the opportunity, each unknown to the other, and brought them together at the proper moment....

THE circumstances of that moment are sometimes rich with the settings of drama. Such was the meeting of a certain man and his big chance in the fall of 1919. The man was WILLIAM A. SAWYER; he was 35; his big chance had come without warning. But he met it as if he'd always known it was coming; stepped into it as though it was made for him. In a way he had, and it was. There was more than fortuity in the fact that, when it was ripe, he was ready. With something of unconscious prescience, he had been getting ready for many years. He can't remember a time when he had any other aim in life than to be a doctor....

He was born in 1884, at Lake City, Iowa, the small center of a farming community. His immediate ancestors were pioneers, of predominantly English, Scotch and Irish extraction. His grandfather drove from Pennsylvania in a covered wagon, proved up his section, and became one of the original settlers of the corn-belt prairie. His father, a railroad man, was transferred to Sioux City in time for the boy's early schooling, and then to Des Moines, in time for high school. The most memorable characteristics of those early years probably group themselves about the recollection of a serious-minded and sensitive youth, storing up whatever he could learn and developing habits of study and thought against the day they might be useful in his chosen profession.

After high school he went east where four collegiate years at the University of Pennsylvania were succeeded by four more at the University of Pennsylvania School of Medicine. Following his internship at the Hospital of the University of Pennsylvania he was Chief Resident, and Assistant to DR. CHARLES H. FRAZIER, Professor of Surgery, and for a while a career in surgery seemed the beckoning of the future. But Carnegie Steel's WILLIAM O'NEILL SHERMAN had a number of cases in this hospital, and association with him in their handling gave the young man a vivid first view of the effects of industrial trauma. Surgically, this interested him. Non-surgically, however, and somewhat disturbingly, he found that he couldn't observe the effects without thinking of the causes. At this time others, too, were thinking of the causes. The great gale of public opinion that would later uproot the oaks of *laissez faire* and demolish the smug structure of assumed risk and fellow servant which had evolved from the common law, was then little more than a breeze. But when it fanned the tensions of the time-worn inequities of employment it sounded a new note in industrial relations: the measurement of work in more liberal terms than hire. Those who understood it became disciples; those who wanted to under-

stand it became eager to learn; an increasing number grew thoughtful. Compensation for injuries was on its way, but along with it there would be the need to study the injuries in their origins, "to obviate consequences, and ascertain contingencies." The extent of the acceptance of this need as a challenge, and the scope and particularity of its meeting in terms of prevention, were to determine the quality and effectiveness of the employee medical services of the future.

SENSITIVE to these things and thoughtful of their meanings, but uncertain as yet of any place of his own in their development, this young doctor went into private practice in Philadelphia. The recording of that event emphasizes the tracery of a superimposed, almost predestined plan in all his professional moves. It was part of the pattern that he should try it, but not that he should stay in it. He needed to discover for and by himself that private practice, even in the surgery for which he was so well qualified, wasn't satisfying. He probably couldn't have put his unsatisfaction into words, but after about a year and a half, when CHARLES E. BRINLEY, (who was DR. FRAZIER'S brother-in-law) wanted him to set up a medical department for the American Pulley Company, he had become convinced that the succession of one-by-one contacts with those who came to him as patients was not to be his career. He desired to go *to* people; to be of service to them in some way collective as well as individual; to look less exclusively into symptoms and more generally into causes, roots, etiologies, environments. Outlines of things preventive were shaping up in his mind—not so much on the sweeping impersonal basis of public health as in the manner of a group where each individual would retain his identity. The industrial group seemed to possess that characteristic, but so strong was his urge toward people rather than persons, and toward service rather than treatment, that if the American Pulley industrial opening hadn't come when it did he might have gone into public health. It could have been said of him about then that he had almost the makings of a medical missionary. It has been said of him that he, more than anyone else, is responsible for the introduction into industrial medicine of those concepts of public health which it has assimilated and made part of itself.

Interesting at this point is the fact that MR. BRINLEY, president of American Pulley, was himself an early protagonist of sound employee relations. The medical department in his plant was to be more than a treatment station; it was to serve as the focal point of a whole personnel program, even though there were only about 500 employees. Having heard of other beginnings along this line, he sent his new medical director on a tour of study. DR. SAWYER began with a visit to Dennison Manufacturing Company at Framingham, Massachusetts, where he witnessed DR. HALSTEAD MURRAY'S young but very excellent program in successful operation. Then he saw DR. RILEY at Plymton Press in Massachusetts; BOYD FISHER, who was studying the Detroit industries for the Board of Commerce; DR. HARRY MOCK at Sears Roebuck in Chicago—through whom he met DRS. CHENEY, CROWDER, HARVEY and others of the group who had organized the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS; DR. TONY LANZA at Hydraulic Pressed Steel in Cleveland; DR. OTTO GEIER at Cincinnati, and many others. At some of these situations industrial medicine had been well begun; at all of them the matter of good employee relations was of great concern to management. He returned to American Pulley with many strong impressions of the importance and the coming place of an enlightened personnel policy in dealings with employees. But also significant in his own development was the picture he got of the administrative side of personnel and medical services. This roused a talent which, if it had remained unexpressed, would have continued to make him restless. It was a timely experience, for hardly was he established in his new department at American Pulley when World War I came along, and a movement was started to classify personnel in the Army camps. When they were ready to select the man to do this, those back of the movement wanted SAWYER. He went into the Army as a civilian, did the job in a manner that was so good it is still used, and returned to American Pulley. Shortly thereafter the medical director at Wanamaker's was called to the colors and DR. SAWYER filled in for him, handling the two medical departments.

During this period, 1918 and 1919, he also edited a company magazine. Interested in the AAIP&S, he went to its meetings and became active in its work. He joined MAGNUS ALEXANDER'S Conference Board of Physicians in Industry; and he was one of the organizing group of the New York State Society of Industrial Medicine. Thus he broadened his acquaintance, and got a comprehensive knowledge of industrial medicine as it was then developing. It is probable that he sensed rather keenly the handicaps under which so many of the medical directors he came to know were struggling. Unable, and unwilling, to subordinate his interest in the origins of the accidents and illnesses that beset employed people, he was developing his own philosophy regarding the preventive possibilities of an industrial medical department. And, so far as he could, he was putting this into practice; as one expression, he was writing on health matters in his company magazine. In what he was thinking, he was a young man ahead of his time. . . .

MEANWHILE, over at Eastman Kodak in Rochester, W. H. CAMERON, personnel director, was helping Mr. Eastman crystallize the program which has become a landmark as "one of the most honest structures of employee relations in the history of industry." A benefit, accident and pension fund had been inaugurated; wage dividends had begun; working hours had been re-

duced and a "suggestion scheme" adopted; and employee stock purchases, expansion of the pension system and other features were in plan. But a medical department was needed; the arch must have its keystone. Here was opportunity! The company was of the order of "big business," successful, with an assured future and a reputation for past integrity; the budget for all a medical department could possibly use had only to be submitted to be approved; management's attitude would be that of a proud father toward a favored son. Whoever would head up the new department was offered a free field; its organization and development could become the long shadow of himself. Opportunity indeed! But for whom? Somewhat familiar with industrial medicine from previous contacts through the National Safety Council, CAMERON undertook to find out. But the first physician he invited to Rochester to see and to be seen, came—and went home. So did the second. And the next, and the next—until 22 had come and gone....

These men were all good men, good doctors. The record, however, is silent as to how much they were influenced by what they themselves observed. This could have been plenty, for the picture had its other side. The opportunity was splendid, but the responsibilities would be huge. At that time (1919), and especially at the executive level, Eastman Kodak was considered a "tough" place to work. The business had outgrown the capacity of any one individual, even its founder, to govern every detail; "there was jealousy among the plants, and lack of unity." And, at the top, Mr. Eastman—in business matters an "individualist" of the old school—was further disturbed by the newer concept of liberalism in the employment relation which he realized was just around the corner. As to this, he wasn't reluctant to meet it; in fact, as a matter of heart *versus* head, his personal desire was to lead it. But he didn't know how, and he was fearful that his anxiety to do exactly the right thing from the humanitarian standpoint would somewhere run into conflict with the conservatism so necessary in a business as sensitive as his. He had the idea, however, that a comprehensive medical department—preventive as well as reparative—might resolve certain of the difficulties. For one thing it could so represent the company to its people as to make the transition from the old-time individualistic era in management to the newer cooperative era almost automatic. For another, it could express, in daily and intimate contacts, the real "heart" of top management which, though it beat in the office, still pulsed with the warm blood of the plant. And, too, from its place at the very center of the company's human relations, it might also even furnish a basis of better coordination between the various plants and departments. He couldn't have told how all this was to be done, but he believed the right man at the head of his medical department could do it. He visualized this right man as an excellent doctor, but no less a top-notch executive; an attractive man, with brains and personality, who could adapt himself to anything and get along with anybody, who wasn't afraid of responsibility, and who, above all, was "intrinsically honest." He admitted these were exacting specifications, but he was sure such a man could be found—willing to undertake all that would be ahead of him.

CAMERON'S principal assistant was a "Colonel House" type of fellow, especially good in matters needing tact and diplomacy. He knew what kind of man Mr. Eastman wanted, and so CAMERON called him in: "*You* find him! Go anywhere, everywhere, but *find* him!" As if conscious of certain overtones of Kismet, he added: "I believe now that you'll know him when you see him!" The assistant left with misgivings. His background had steeped him in a sultry outlook on human nature, and he wasn't too hopeful. The search was long. He went to New York, Chicago, Pittsburgh, and elsewhere. At last, however, he phoned from Philadelphia, and for once in his life he seemed enthusiastic: "I've found him! His name is SAWYER...."

Responding to CAMERON'S invitation, DR. SAWYER went to Rochester. CAMERON says of their meeting: "In less than 10 minutes we knew he was the man." Asked how they knew, he replies: "I still can't explain. His just being there seemed to settle everything." Mr. Eastman's reaction was equally sudden—a handshake, a smile, a nod of approval. DR. SAWYER was agreeable; he was engaged forthwith.

IF THE circumstances of DR. SAWYER'S becoming identified with Eastman should be thought over-emphasized, it must be remembered that they are given added meaning by what followed. Among their fortuities, they had the effect of a conspiracy to get him off to a good start. As he entered upon his new duties, he was well aware of the uses and values the company would derive from a proper medical department; but over and above this was the picture he had already made for himself of the uses and values the medical setup could develop for the employees. Thus he saw his opportunity as one of service; and the guidance which seems to have prepared him for the job, and the job for him, gave him a free hand to organize his department as a means to that end. This was an unusual situation for those days. The best that could be said of too many of the medical departments then existing was that they were more or less defensive measures on the part of their companies, with horizons limited to enough first aid and curative care to satisfy the compensation statutes. There were numerous industrial physicians who appreciated the larger possibilities of medical service to employees, but the executives who would let them do what they wanted to do were few and far between. Here, however, was an employer of more than 15,000 who engaged a medical director, installed him in his position, and actually *gave him no instructions*....

Mr. Eastman made few mistakes in choosing men. It was quickly apparent that he had made none here. An eye-witness, recalling DR. SAWYER'S beginning, says: "His personality was just right. He was agreeable, and adaptable. He had a fine education, was a good surgeon, knew the techniques. He took hold of his job conservatively. He was cautious, but strong. He came into a sensitive self-contained, almost aloof business just when certain of its policies were about to change, and his medical department helped the changes along—much for the better. He never abused his *carte blanche*." The last sentence is superfluous; he couldn't abuse it; there was no guile in him—only the desire to serve. His attitude toward service has always been as if it were a personal responsibility; his attitude toward his own abilities and opportunities to be of service is as though they were a trust of which he is the appointed steward. Never has he permitted them to become an office of exploitation. The rise of his medical department to the international renown with which the whole field of industrial medicine has long been familiar is, in no small part, a reflection of this almost-consecration to service on the part of its director.

HIS organization and development of his department were done quietly. "He fitted in; made no demands; promised no promises." The successive steps he took were announced in results rather than proclamations. Steadily, almost imperceptibly, the employees at the various plants began to find themselves going into the doctor's office with confidence—and leaving it with confidence; the doctors discovered that their work was being supported and their efforts sustained at headquarters; private practitioners in the plant localities realized that they were receiving cooperation instead of competition. The department grew from one full-time and two part-time medical men for 15,000 employees in 1919, to 16 full-time physicians, a consultant staff including a cardiologist and a chest consultant, one full-time and six part-time oculists, a corps of technicians and nutrition experts, and 42 nurses at Rochester, and three full-time physicians and 15 nurses elsewhere, for the now 50,000 employees.

And it progressed from a well-intentioned but somewhat desultory surgical service at the various plants to an integrated and completely comprehensive medical and surgical service for the whole Eastman industry—reparative, diagnostic and preventive. The scope and variety of this medical department's present-day interests and activities are evident from the extent to which the company and its operations have expanded. While maintaining world leadership in the manufacture of cameras and films, the Eastman enterprises have come to embrace the manufacturing, processing or refining of more than 4,000 chemical substances, in addition to an important part in the atom bomb development at Oak Ridge, Tennessee, during the late war.

No itemization of the problems facing the medical director and his associates in a development of this kind is necessary. Anyone familiar enough with industrial medicine to be reading these lines can appreciate their number and complexity. The growth of the medical department that was to take them in stride, however, was *fait accompli* before it was generally recognized that the man who was chiefly responsible for it, in addition to being "a good doctor," possessed and was using other talents of a high order as executive, organizer, coordinator, and administrator. The significance is that this had to be appreciated from results; it wasn't heralded in advance, and it was constantly obscured by the simple sincerity of his everyday life. But its appreciation disclosed still another talent which is of the stuff of greatness. For it was as if the Eastman group suddenly awoke to the presence of an unusual man in their midst—his unusualness shown in the fact that whereas he could so easily have made his medical department "the long shadow of himself," he chose instead to give it so much of solid substance that he, himself, stayed hidden in its shadow. Perhaps "chose" isn't the proper word, because, although he did this deliberately, there was nothing elective about it. He did it in the only way he, being himself, could do it—with no other purpose than that of building his department in a manner to afford the maximum of uses and values to both the company and its people. If there was anything else in the possibilities, he was unconscious of it. This enhances the difficulty of keeping this sketch a study of him rather than his department. He must be separated, as it were, from the things he has done which are so much a part of him that their story is his. But some highlights should be mentioned.

HIS first choice of co-workers was BENJAMIN SLATER, whom he engaged in June, 1920, as medical director of the Kodak Park plant, and who since 1943 has been associate medical director of the company. His next was RUFUS CRAIN, who came in July, 1920, and since 1943 has been assistant medical director. Each of these men has attained his own eminence.

On the national scene DR. SLATER is "distinguished for his work in early recognition of tuberculosis roentgenographically and in problems arising from syphilis in industry." Locally he has always been active in organization matters; he is the only individual who has been twice president of the Monroe County Medical Society. His interest, thus expressed, is completely natural; he expresses it because he likes to. One result of this has been the persistence of good relations between the local physicians and the company medical department, for without DR. SLATER these might have become less than satisfactory as a consequence of the fact that DR. SAWYER was not very active in nearby professional circles, and, on occasion had been regarded askance because of his somewhat liberal views on certain phases

of medical care. The happier outcome, however, may owe a seed of its genesis to DR. SAWYER'S faculty for selecting associates complementary rather than supplementary to himself, giving them full freedom of action, and then finding deep happiness in their ability to stand beside him and work with him.

DR. CRAIN has the record of having done as much as anyone toward transforming the preemployment physical examination from a screening process against future compensation liability into a means of evaluation for placement and case-finding for correction. But he is probably more widely known, along with MORRIS MISSAL, for the special studies of heart disease in industry from which came the finding that cardiacs can continue in employment if guided and properly placed.

In 1934, DR. SAWYER persuaded DR. C. F. N. SCHRAM, of beloved memory, to become medical director of the company's new plant at Kingsport, Tennessee. And later, in 1936, he employed JAMES H. STERNER as director of the company's laboratory of industrial medicine. DR. STERNER'S identification with the best in methods of environmental conditioning is common knowledge.

Perhaps, however, the one of his associates whose work attracted the most public attention was LAURA COMSTOCK, whom DR. SAWYER, in 1926, turned loose on problems of nutrition. In her 15 years with the Eastman medical department she accumulated a veritable cyclopedia of nutritional information, which made the Eastman cafeterias the Mecca of those who want to learn about in-plant feeding. Her efforts materially reduced the high percentage of illnesses due to dietary indiscretions, and her educational methods for keeping such illnesses at a minimum have been widely emulated. This adventure into what were considered the purely personal habits of the employees was a pioneer move. But it was needed, and the present place and importance of nutritional guidance in employee medical services everywhere have proved that it was popular. MISS COMSTOCK had a great deal to do with putting calories and vitamins into the everyday language of diet; she demonstrated very effectively that science can be the handmaid of appetite in the service of health. Among the recognitions accorded her for these achievements was election to the Presidency of the American Dietetic Association.

One of DR. SAWYER'S early interests was the matter of eyes. The conditions he found among the employees called for oculists. He brought them in, and their services became a permanent feature of the medical department's activities; one on full time and six on part time have been made regularly available. He considers this one of the best things he has done. Another matter of first importance was tuberculosis. He instituted chest x-rays in 1921, and since then they have been conducted on a periodic basis, holding the situation well under control. Along with these he began the campaign of health education which he has never allowed to slow down. Exhibits, talks, movies, posters, bulletins—the art of keeping them fresh and getting them heeded has become highly developed under his guidance.

DR. SAWYER'S establishment of his medical department, gradual and effective within the company's expanding operations, did not proceed unnoticed from without. Almost from the start, other companies wanted him; and from time to time overtures were made by top managements in big business—steel, oil, utilities, motive power. But they found it even more difficult to remove him from the things he was doing than the biographer now finds it to separate him from the things he has done. He stayed where he was. His reasons for staying are not known, but there comes the thought that the destiny that put him there didn't want him to leave. He was the right man in the right place. The sequel of his staying is not only a brilliant chapter in the history of industrial medicine from his own standpoint, but also—from the standpoint of the company, the employees and the community—a chapter of vast importance in the setting of medical department standards, the evolution of techniques, the refinements of hygiene, the improvement of environment, the adaptation of worker to job and job to worker, the practical application of the philosophy and the science of prevention, and, finally, the humanizing of the employment relation in general.

This last, the humanizing of the employment relation, may have been quietly persuasive in DR. SAWYER'S staying with Eastman. From his very first contact with the industrial situation—at American Pulley, in 1917—his interest in people, transcending the extent to which the physician is presumed to be interested, has been concerned with the employee's adjustment to his work as a part of the pattern of his life. In addition to being safe and comfortable in what he is doing, the employee is entitled to a personal realization of economic usefulness and importance in the company as well as in the community. The expression of an interest of this kind on the part of an employer involves an industrial relations program. Nowhere else was there an industrial relations program that expressed it so satisfactorily for DR. SAWYER'S conception of how it ought to be expressed as at Eastman Kodak. . . .

DURING the years, DR. SAWYER has found time for numerous Association activities. He has always kept up his interest in the AAIP&S; he was secretary-treasurer in 1922-23, later vice-president, and then president. Fellow of the AMA, he was secretary of the Section on Preventive and Industrial Medicine and Public Health, holding "the most extraordinary record as secretary in the history of the Section, having served for seven consecutive years." Later he was made, and has continued, a member of the AMA Council on Industrial Health. At one time he was secretary of the New York

State Society of Industrial Medicine. He has long been a Fellow of the American Public Health Association. His past and present board and committee affiliations are given in "Who's Who in Industrial Medicine."* Notable among the organizations there listed are the number to which lay people are eligible for membership, and the civic or generally public direction of their aims. This is an expression of his interest in health education, but it has a deeper source—his fundamental and lifelong interest in people. He likes people. He knows more of them, and more about them as individuals, than anyone would believe. His liking, however, is not altogether an extrovert liking—he isn't much of a lodge or club man, nor a "hail fellow"; but neither is it introvert, for he draws no lines. And "humanitarian" doesn't describe it, since it contains little of the altruism, and none of the reaching for personal fame, with either or both of which that term is so generally associated. The better explanation is that it is extrovert, introvert, *and* humanitarian—all three being liberally tempered with an innate humility of spirit, a sense of real meaning in the text that "all men are created equal." They are, as he is, human. Who, then, shall exult in the differences that arise to distinguish them one from another? Each deserves his every chance; each in his own right is entitled to his own dignity. It has been said of DR. SAWYER that his attitude toward people is his greatest fault; he accepts them too readily; trusts them too much; forgives them unto "seventy times seven." In a world where, "to get along well," as one doctor puts it, "one has to be almost ruthless, utterly selfish," a tolerance of this kind is so little understood that it is often attacked. It isn't strange, therefore, that he has been criticized, even suspected, on the ground of too much liberalism—such, for example, as might have been inferred from his early attitude on hospitalization insurance, or, perhaps, from his frank recognition that the employer's responsibility may, on occasion, extend past the employees to their families and to the community. But that criticism never bothered him or made him change his ways—for which there are many people who are very grateful. His liberalism, however, such as it is, doesn't make him a believer in "government" medicine. It isn't that kind of liberalism. His is a liberalism of heart, not of halo. And besides, from his extensive experience with sickness benefits, he realizes the sheer impracticability of their continuing to accomplish their purpose under a political program. He likes people, and people like him.

AS TO the number and scope of his committee and board activities, it is a compliment, of course, that they are offered him, but his acceptances are based primarily on his feeling that he may in some manner be of service. It is his desire to help that accounts for there being so many of them. He is indifferent to all such reflections of prominence as might appear from their number or their quality. This is true, also, of his program participations. He is an interesting and effective speaker, but it is doubtful whether he could be prevailed upon to speak unless he really believed he had something to say worth listening to. That he so often has is strongly indicated by the frequency with which he is called upon. It is a rare industrial medical meeting to which he doesn't contribute something of value which is remembered for what it was rather than for anything connected with his manner of saying it. He also writes well, but not prolifically; his contributions to the literature are notable more for importance than number. He has the faculty of a nice and pleasing style; nothing could be more graceful than his little speech at the Buffalo Conference in 1947, presenting the AAIP&S KNUDSEN AWARD to DR. CAREY P. MCCORD. His letters, too, are models of clear statement, but he is the despair of his friends because, as one of them remarked, "it takes an earthquake and an act of Congress to get him to reply to a communication." This is a rather recent development; he used to be a better-than-average correspondent. His present habit, however, has nothing to do with the sometime attitude that "letters seldom need replies; most of them answer themselves in five or six weeks." Nor with the feeling illustrated by Oscar Wilde, in remarking upon his own disregard of correspondence: "I have known men come to London full of bright prospects and seen them complete wrecks in a few months through a habit of answering letters."* If it needs any explanation at all, one finds it in the mental preoccupations that are superimposed upon his heavy routine of daily contacts with people. These contacts are his immediate life; he loves them, and he lives in them—and, anyhow, he'll probably meet some of his unanswered communicants at the next meeting of one or another of the many groups who count on him to strengthen their programs, and then and there he'll reply to each in a few words. Asked by letter how he, as Editor of *Occupational Medicine*, would view the establishment of an AAIP&S committee to recognize, by suitable yearly awards, the scientific and literary excellences of

*WHO'S WHO says of him that he has been a member of the Subcommittee on Industrial Hygiene of the Governor's Health Committee, New York; member of the Board of the Rochester Hospital Service Corporation and its Executive Committee; member of the Hospital Claim and Medical Commission; chairman of the Hospital Appropriations Committee; member of the Council of Social Agencies of Rochester (chairman of the Health Division, and member of the Committee on Long Range Planning); and member of the YMCA Board of Directors; and that he is a member of the National Tuberculosis Association (Committee on Tuberculosis in Industry); Medical Society of New York; Monroe County Medical Society (Health Education and Tuberculosis Committees); Tuberculosis and Health Association of Rochester and Monroe County (past-president, and chairman of the Executive Committee); Mental Hygiene Society of Monroe County; National Research Council (Committee on Nutrition in Industry); Health Advisory Council of the Chamber of Commerce of the United States; National Organization for Public Health Nursing (Executive Committee, Industrial Nursing Section); Medical Advisory Committee, National Association of Manufacturers; National Safety Council (Chairman, Health Advisory Committee).

*"Oscar Wilde: His Life and Wit," by Hesketh Pearson; Harper and Brothers, 1946.

current contributions to the literature of industrial medicine, he waited until he saw the writer of the letter months later at the Boston Conference last March, when he said "I'm for it!" His contacts are numerous and constant, and his preoccupations absorbing and deep. So completely have they involved his hours that he has less and less time for recreation. He has found much fun in the expert handling of sailboats, but that, with other diversions of other days, is now mostly past tense. Yet he preserves the even keel of "confident living." Possibly this has some relation to a recognition on his part of more than the materialism which seems all of life to so many men of medicine; a recognition of the things spiritual without which everything of life were truly "signifying nothing." He is interested in his church (Presbyterian) and its work—to an extent that might be described as a bit less than devout, a bit more than faithful. And once in a while he'll participate in a "square dance"—the old-fashioned "formula for fun" which, interestingly enough, is now experiencing a popular revival.

ONE hearing about DR. SAWYER and then meeting him for the first time might have to revise some preconceived notions, for he has neither the appearance nor the demeanor of the dynamic personality that speaks in his record. One finds him quiet, poised, sensitive, patient, somewhat shy, always considerate—a gentleman in the true and literal meaning of the word. He looks wise, and, if the expression may be allowed, he acts thoughtful. The realization that his is a dynamism of heart comes later; the personality from which the heart reaches out is very evenly balanced. But his reaching-out of heart is always evident. In all his relations with those close to him—clear down to the most obscure employee—he tries to make them feel that what they are doing is important. As an example of this, the sense of real achievement with which he imbues the graduates of his training school for dieticians when he gives them their diplomas—as is his annual custom—is his way of showing that he shares the feeling he knows each one has of personal satisfaction in personal accomplishment. This uniform sensitivity to the other person as an individual human, "created equal," may be considered a fault, particularly since it has the right-of-way among the innumerable demands upon his time and attention. But it will only be so viewed by those who fail to understand that in him it is completely sincere and genuine, wholly selfless, and never exhibited for effect. Under such circumstances, it is a virtue of the highest order; religions have been founded on less.

NATURALLY enough, DR. SAWYER has been honored on many occasions. To mention but a few, the AAIP&S gave him the WILLIAM S. KNUDSEN AWARD in 1942 for "his outstanding contributions in the fields of nutrition and tuberculosis." In that same year the National Research Council sent him, together with W. P. YANT, on a "top-secret" flight to England where for eight weeks the Ministry of Health had the benefit of his wisdom and experience as a consultant on the health of industrial workers. Then, in 1945, when the AMA Council on Industrial Health began the publication of its monthly journal, *Occupational Medicine*, he was made its Chief Editor. Possibly he views such things as less honors than invitations to service. Asked recently how he liked being an Editor, he replied: "I'm learning." It is characteristic of him to feel, down deep, that he is really honored in having the chance to serve.

The fact remains, however, that many who have conferred honors upon him have honored themselves in the bestowal—which, indeed, may be exactly the case in the event that this little "profile" of appreciation should in any way be considered an honor. If it is an honor, it is richly deserved; three decades of single-minded devotion to the highest ideals of the finest of professions, in pioneer paths, and with results that are as important as those he is responsible for, are entitled to a high place in the annals of recognition. And if in any manner it sustains the young man of the introductory paragraph in his impression that industrial medicine and the men in it "had stature," the subject must admit that his part of the "stature" is his own, and that the biographer isn't responsible for the disclosure that, when it is measured in the objective terms of the record, it is found to have the dimensions of fame.

# ASSOCIATION NEWS

## From Argentina

EXTRACT from *El Mundo*, June 8, 1948—"Specialization in Industrial Medicine": "Among the decisions taken by the Argentine Congress of Industrial Medicine held here recently, one is particularly important in that it recommends that the universities of the country create, in the corresponding faculties, institutions specializing in the study of industrial medicine. It was also suggested that the faculties of Engineering and Chemistry intensify the instruction concerning professional hazards, and also establish laboratories of industrial toxicology, respectively. For some time now, and this is worthy of rejoicing, we have noted throughout the country a keen interest in improving conditions under which persons dedicated to manual labor in the camps and in the factories work, as regards the risk of accidents and health maintenance. Considerable work has been accomplished by private enterprise and public institutions in pro of what is known as professional safety. But we are still in the initial stages. Our technique is as yet undeveloped and we might say that it is still empirical. We must aim at the diffusion of knowledge and scientific procedures, and how can this better be accomplished than through the university which can and should handle this matter. We still do not have in our midst physicians specializing in the care of ailments attributable to work and, consequently, in the prevention thereof. Nevertheless, the country is progressing firmly in its industrial evolution. The factory is making an important place for itself, beside agriculture and cattle which is our tradition, in the economic picture. Thus, it is urgent that these activities be carried out with the best possible guarantees in view of the contingencies which arise in carrying out this work. The conclusions at the recent Industrial Medicine Congress, must not, therefore, be forgotten, and it is up to the authorities of the higher centers of instruction to estimate the possibility of putting them into practice."

The foregoing communication was sent in as a news item by DR. JUAN KAPLAN, Buenos Aires, Argentina, who has been a member of this Association for several years and an appreciative reader of INDUTRIAL MEDICINE. Among our other South American members are the following: DR. WALTER F. GREAVEN, JR., Rosario, Argentina; DR. JOSE MARIA E. MEZZADRA, Buenos Aires, Argentina; DR. G. D. VELLOSO, Minas, Brazil; DR. DECIO PARREIRAS, Rio de Janeiro, Brazil; DR. J. M. BAENA-LAVALLE, Bogota, Columbia; DR. MYRON D. BARTHOLOMEW, Morococha, Peru; DR. JORGE SOTO-RIVERA, Caracas, Venezuela.

## Medical Education and Graduate Fellowship

REPORT FROM THE COMMITTEE ON MEDICAL EDUCATION AND GRADUATE FELLOWSHIP, June 21, 1948: An interim report was made to the Association at its Board Meeting in Cleveland in February, 1948.

During the past year your Committee, while not participating directly in contacting medical schools, and educators, has maintained a close liaison with the Council on Industrial Health of the American Medical Association, who have a full-time representative in the field.

As of April, 1948, 55 of the 69 medical schools in the United States had been visited. Those yet to be contacted are schools in the Southwest. Data will shortly be compiled and presented in summary form reporting the national situation.

The changes that have occurred have largely been in the direction of adjustments and readjustments. Whether many of the schools can strengthen industrial medicine by a continuation of this policy of fragmentation is doubtful.

It is interesting to note that the degree of progress was not entirely in the medical centers of our larger industrial areas, where we might expect them to be well geared.

Your committee is considering and proposing the following:

1. *Undergraduate Instruction*—continuing its close cooperation with the Council on Industrial Health of the American Medical Association, by preparing and offering a revised joint statement as to minimum requirements, hours of instruction, course content and department in the medical school which would assist the curriculum makers.

2. *Graduate Instruction*—our concern at this time is the lack of uniformity in time requirements for advanced degrees in industrial medicine. The period varies from one academic year (eight months) for a master's degree to three years for the degree of Doctor of Industrial Medicine. This is reminiscent of the situation among schools of public health a decade ago, which resulted in a very unhealthy form of competition. This situation is in need of further study and evaluation. We believe that both academic and in-plant training are essential for a complete training program. While the Association need not attempt to set up a standard curriculum, we are prepared to offer certain essential components of any academic graduate program.

3. *Post-graduate Instruction*—the Association can serve a useful purpose by maintaining a file of all full-time and part-time courses of instruction available and publishing the same regularly in INDUSTRIAL MEDICINE with full details.

4. *Fellowships and Residencies*—the Association should continue to cooperate with the American Medical Association in its current effort to establish standards. The questionnaire recently circulated by the A.M.A. indicates their need for help.

Your committee is also exploring the possibility and advisability of undertaking a survey of industrial nursing in schools. This would be a cooperative project with the professional groups involved.

—M. H. KRONENBERG, M.D., *Chairman*
WILLIAM A. SAWYER, M.D.
WILLIAM LAUTEN, M.D.
RONALD BUCHAN, M.D.
LEONARD GOLDWATER, M.D.

## Tuberculosis

REPORT FROM THE COMMITTEE ON TUBERCULOSIS, June 21, 1948: The Committee on Tuberculosis of the Association wishes to present the following report: (Since DR. CHESTER SAMUELSON has declined membership on the Committee, this report represents only the Chairman's contribution).

After reviewing the past activities of the Committees on Tuberculosis, it is suggested that a definition of the Committee's objectives should be recorded. It seems that the Committee's main purpose is to report information on tuberculosis and associated

pulmonary diseases which affect industrial medical practice, and to make recommendations concerning this information which will be helpful to the members of AAIP&S.

It is recommended that the Committee sponsor the publication of a series of articles on current topics related to the subject (which perhaps could appear in the official Journal of the Association) to disseminate this information.

Inasmuch as the National Tuberculosis Association has a Committee on Tuberculosis in Industry, it is further recommended that duplication of work could be avoided by having the AAIP&S represented on the NTA Committee. Since the Chairman is at present a member of the NTA Committee, the following account of its activities may be informative:

*Present activities of NTA which relate to AAIP-&S Committee work:*

1. A booklet entitled "Tuberculosis and Industrial Employment" will contain a statement suggested by DR. HAZLETT'S AAIP&S Tuberculosis Committee (1946). This booklet is not yet in print, but will appear in the very near future. The new edition of this booklet will also contain revised diagnostic standards prepared by DR. O. A. SANDER.

2. An Atlas is being prepared by DR. VORWALD on the subject "The Chest of the Industrial Worker" which has every indication of being an unusual and valuable addition to the literature on chest diseases in industrial practice. The final scope and form of this Atlas have not yet been settled.

3. A pamphlet on the subject of "Tuberculosis Compensation and Rehabilitation" has given rise to much discussion. This topic was assigned to DR. NORVIN KIEFER of the USPHS and will be discussed fully with representatives of the International Association of Industrial Accident Boards and Commissions at that group's next meeting.

4. A publication entitled "Industry and Tuberculosis, from the Viewpoint of Management and Labor" is in preparation. An article embodying the viewpoint of labor has already been submitted; the viewpoint of management article is awaiting the selection of a suitable author. It will be DR. PRICE'S assignment to present a statement on the two viewpoints, which will comprise the Foreword.

5. "Chest X-Ray Service in Action—A Symposium" will present a series of articles on mass chest x-rays performed in different parts of the United States and has been published this year.

—LEO PRICE, M.D., *Chairman*

THERE was a combined meeting of the Sections on Industrial Medicine of the Canadian and Ontario Medical Associations held in Toronto, June 23. DR. C. O. SAPPINGTON, DR. R. G. BELL and DR. WM. H. CRUICKSHANK addressed these meetings. A two and one-half day meeting of the Ontario and Quebec Industrial Physicians is planned to take place in Toronto at the end of September; this promises to be a very enthusiastic gathering.

SEVERAL of our members, Fellows and officers are making the trip to London to attend the Ninth International Congress on Industrial Medicine, September 13-17, 1948. Among them are DR. FENN E. POOLE, Glendale, California; DR. ROBERT COLLIER PAGE, New York City; DR. and MRS. FRANK R. GRIFFIN, Toronto; DR. R. R. ROBSON, Walkerville, Ontario, Canada; DR. H. E. TEBROCK, Flushing, New York; DR. ALLAN K. HARCOURT, Indianapolis; DR. WILLIAM A. SAWYER, Rochester; DR. GEORGE H. GEHRMANN, Wilmington, Delaware; DR. HEDWIG S. KUHN, Hammond, Indiana; DR. JAMES TOWNSEND, Washington.

DR. HERBERT L. DAVIS, of Cleveland, Ohio, retired from active practice on July 1, 1948. He has been a loyal member and Fellow of this Association for many years and has been regular in his attendance at the Annual and Convention Meetings. He was voted Honorary Membership by the Board of Directors, June 21, 1948. He is retiring to Texas and will be located at 6051 Aberdeen St., Dallas 5, Texas. His many friends in the Association wish him much happiness and pleasure in his retirement.

---

WE HAVE recently learned of the death of DR. A. W. COLCORD, of Clairton, Pennsylvania, on April 30, 1948. He was one of the loyal old-time supporters of this Association almost from the beginning, and contributed much to the thought and value of the Annual Meetings in years past.

ALLEN P. GURGANIOUS, 41, Palatka, Florida, a member through our Florida component society, was killed in an automobile accident January 28.

---

## New England Conference of Industrial Physicians

THE following account of the Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, at Hartford, May 27, is from *Connecticut State Medical Journal* for July, 1948. Elsewhere in these pages are six of the addresses and papers given at this meeting; those by DRS. MURDOCK, BUCHAN, and GOFF, and MESSRS. SCHWARTZ, COLLINS and MARTIN (see pages 287-300).

MODERN management considers the industrial physician "a most important personnel ambassador" and a valuable contributor to production through maintaining the health of the working force, according to ALLEN W. ROCKWELL, works manager of the American Brass Company, Waterbury. Addressing more than 200 industrial physicians, nurses, and safety engineers at the annual dinner of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS at the Hotel Bond, Hartford, on May 27, Mr. Rockwell emphasized that the principles of occupational medicine contain powerful factors for industrial progress. However, it is often found that these principles must be "sold" to management. "It's a selling job, not merely requests for authority, that is needed," he declared. Industry can prosper only so long as it maintains and advances production, the speaker emphasized, and stated that its medical departments must be considered as part of the production team. The address by MR. ROCKWELL concluded the all-day conference, during which the principal phases of occupational medicine and safety engineering were discussed by speakers from Connecticut, New York, Massachusetts, Rhode Island, and Illinois.

Asserting that "it is the duty of Connecticut industry to provide for advanced research in industrial medicine," DR. THOMAS P. MURDOCK, Meriden, chairman of the State Medical Society's governing Council, declared at the morning session that medical departments in modern industrial plants are cutting down absenteeism, saving lives, and contributing to the health of workers. He condemned

proposals for socialized medicine as foolish beliefs that mere changes in administrative techniques can provide better health services.

Presenting a viewpoint of industrial management, H. W. SCHWARTZ, vice-president of the Robertson Paper Box Company, Montville, stated that within the past few years management has come to full realization that almost any expenditure for the improved health of employees is a good investment. "In order to get high standards of efficiency we cannot employ workers inferior physically or mentally to their jobs," he declared. Outlining the problem in terms of profit and loss, MR. SCHWARTZ stressed the fact that the average American worker loses nine days of production time per year because of illness and accidents. Added to this cost must be production losses incurred by unfit workers operating expensive, high-speed machinery, and the far greater cost of damaged morale and goodwill.

Growing pressure from labor organizations for a full-scale medical-care plan in industry may exact some programs in this direction within the next few years. This opinion was expressed by DR. DANIEL L. LYNCH, medical director of the New England Telephone and Telegraph Company, Boston, and past-president of the AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS. He told the group that it is becoming increasingly difficult for industrial physicians to convince workers that only work-incurred disabilities can be treated within the plant. Labelling the health fund of the United Mine Workers as one of the main opening wedges on labor's program for complete medical services on the occupational level, the pioneer industrial physician declared that employee benefit plans and unemployment insurance have raised serious problems of absenteeism.

In introducing members of an afternoon panel discussion on cooperative relationships in occupational medicine, G. R. FUGAL, personnel manager of the General Electric Company, Bridgeport, laid responsibility for the attitudes of employees at the door of management. "Employee attitudes are conditioned by management," he asserted, and added that "We ought to realize that we're in business to do some good for somebody—not just ourselves." Sound principles of human engineering must be relied upon by management today to develop the latent possibilities of its production force, and this cannot be done merely by initiating higher pay scales, the personnel manager told his audience. "You cannot buy enthusiasm, loyalty, devotion—you cannot buy hearts, and mind, and souls."

As discussant for the panel, DR. CARL PETERSON, secretary of the Council on Industrial Health of the American Medical Association, accented the importance of human relations and its direct connection with industrial medicine. "I firmly believe," he said, "that the job of human relations is so comprehensive, so vast, that it is today's greatest challenge to industrial medicine." He expressed confidence that the principles of sound relationships will in the next few years progress beyond all expectations, and that this period will bring management closer than ever before to industrial medicine.

The last speaker on the panel, DR. CHARLES W. GOFF, Hartford orthopedic surgeon, raised a provocative discussion when he declared that industrial nurses should "be seen but not heard." He stated that, while industrial physicians place high value upon the services of their nurses, sometimes a comment by a nurse is taken too literally by an employee-patient, and this creates difficulty in subsequent treatment by the physician. DR. GOFF also declared that "the weakest link" in the industrial production chain is the foreman trained only for production and not for the adjustment of employees to their work. Strenuous exceptions to both statements were voiced by ROBERT T. COLLNS, personnel director of the New Departure Division of Gener Motors Corporation, Bristol. He stated that in his plant employees are assigned to their jobs directly from the personnel department, and that foremen are trained in this procedure, and also declared that industrial nurses, in his opinion, should be permitted to speak as freely as the situation demands in order to give proper patient care. In his rebuttal, DR. GOFF said that the problems as he had stated them were largely applicable to smaller industries, that he could see how they might not apply to a large, more developed industry, but that this did not obviate the principles involved.

Other participants in the discussion were DR. DONALD V. BAKER, medical director of Lever Brothers Company, and Conference vice-president; MRS. MARY DELEHANTY, president of the AMERICAN ASSOCIATION OF INDUSTRIAL NURSES; and EVERETT W. MARTIN, Liberty Mutual Insurance Company, and past president of the Connecticut Safety Society.

Speaking at the afternoon session on "The Training of Industrial Physicians and Nurses," DR. RONALD F. BUCHAN, clinical director of Yale's Institute of Occupational Medicine and Hygiene, stressed the importance of "reasonable agreement" among industrial physicians concerning the scope of educational programs in this specialty. Until such agreement exists, "educational centers will not hasten to institute these programs," he declared. Not only must accord be reached in developing postgraduate courses, but adequate steps must be taken in undergraduate education, DR. BUCHAN pointed out. He characterized the situation as one requiring more discipline and organization, and stated that the efforts of a few medical schools to establish departments of occupational medicine will prove of little worth unless other institutions follow suit.

Operating features of the Hartford Small Plant Medical Service were described by DR. ROBERT L. QUIMBY, its director, and the afternoon session concluded with a discussion led by DR. STANLEY SPRAGUE, medical director of the J. and L. Coats Company, Providence, R. I., and past president of the NEW ENGLAND CONFERENCE.

The meeting was sponsored by the Industrial Health Committee of the State Medical Society. DR. C. FREDERICK YEAGER, committee chairman, presided at the morning and evening sessions with DR. J. ROBERTSON KNOWLES, of Boston, Conference president. Guest sponsors included the Occupational Health Council of the Manufacturers Association of Connecticut, the Industrial Nursing Section of the Connecticut State Nurses' Association, and the Connecticut Safety Society. DR. CRIT PHARRIS, assistant medical director of the United Aircraft Corporation, East Hartford, was chairman of the committee which planned the conference. Committee members were DR. ALBERT S. GRAY, director of the Bureau of Industrial Hygiene, Connecticut State Department of Health; DR. JOHN N. GALLIVAN, medical director, United Aircraft Corporation; DR. RONALD F. BUCHAN, Yale University School of Medicine; and DR. ELWOOD C. WEISE, Bridgeport.

# NEWS, COMMENT, OPINION

## Not Commodities

MEDICAL services are not commodities that can be bought in standardized packages wherever and whenever one has the money to pay for them.

—Medicine in the Changing Order, Rep. New York Academy Med. Comm., The Commonwealth Fund, 1947.

## Education by Experience

EVERY visit to the clinic or the doctor's office, every visit by the public health nurse, is health education, for the visit provides the most powerful type of learning, namely, experience. If the experience is not satisfying, there will be a tendency to avoid seeking health and medical care the next time the individual or a member of his family needs it.

—MAYHEW DERRYBERRY, PH.D., Pub. Health Rept., November 14, 1947.

## New Look

WHEN a certain dye proved toxic to laboratory animals, anonymous doctor doing cancer research at University of Pennsylvania tried some on himself. He not only survived, reports the Associated Press, but "turned a handsome shade of blue."

—*Medical Economics*, June, 1948.

## And Some in Congress

DOCTORS of Medicine have been criticized for not taking sufficient interest in national politics but the records prove otherwise. There were two physicians in the group that signed the Constitution of the United States and five who signed the Declaration of Independence.

—*Detroit Medical News*, July 12, 1948.

## Last One In

MISSISSIPPI was the last of the states to enact a workmen's compensation law. Many of the recommended standards are included in the Mississippi Workmen's Compensation Act which becomes effective January 1, 1949. Provision is made for compulsory coverage, unlimited medical care, a second injury fund to facilitate the employment of handicapped workers, and double compensation for minors injured while illegally employed.

—*Monthly Labor Review*, June, 1948.

## Group X-Rays

PERIODIC group chest x-rays are of value to industry through the detection of early cases of tuberculosis, whereupon a leave of absence for treatment, followed by assignment to duties with less exacting physical demands can be arranged. Also, the chest survey may give the first indication of progressive heart disease and be the clue leading to the removal of a man from arduous physical work.

—RODNEY R. BEARD, M.D., quoted in *J.M.A. Georgia*, May, 1948.

## The Cost of the Common Cold

THE common cold is the most prevalent and the most highly infectious of all the communicable diseases. The average persons suffers at least two colds in the course of a year. The duration of the simple cold averages about five days. The common cold is responsible for more lost time in industry than is any other single cause of disability being responsible for from 40-50% of all days lost from work. Therefore, more than 60,000,000 days are lost from work annually and at a daily wage of $7.00, this implies a wage loss of $420,000,000. The cost for drugs and medical care per family is about $10.00 per year. This results in another $400,000,000. When one considers the cost to employers through lost productive effort, the total cost is well over a billion dollars per year.

—Statistical Bulletin, Metropolitan Life, quoted in *What's New in Industrial Hygiene*, 4:4, 23, 1948.

## Where He Stands

ONE of the branches of medicine that progressed very much during the war is industrial medicine. It is mainly due to the tremendous increase in industrial plants for the production of war materials to defeat the enemy. New substances, many of which are hazardous to workers, have come up and means for protecting the latter have to be devised. Industrial medicine has therefore come to the fore. The industrial physician is now no longer looked upon as a man who seeks such employment because he cannot withstand competition outside. He ranks with the foreman if not with the manager. He is looked upon not only as a traumatologist but also as an industrial hygienist, a man who looks after the safety and health of the workers in his plant as a whole. A movement is now afoot to put industrial medicine on an equal basis with such specialties as medicine and surgery, placing it as a distinct specialty and provided with a specialty certifying board.

—From an article by DR. JOSE SANTILLAN, in *Philippine Medical World*, quoted in *Plantation Health*, Hawaii, July, 1948.

## Protest

PALMER, Tenn., July 8 (AP)—The only doctor in this east Tennessee coal mining community has closed his clinic in protest against racial discrimination that recently denied Negroes the right to work on his new home. About 3,000 persons, mostly miners and their families, are without medical protection, county and mine officials said today. Dr. Oscar H. Clements, 38, practicing here for the last 14 years, has moved his family from Palmer and stored his clinical equipment at Chattanooga. The doctor confirmed his construction foreman's statement that five men came to the house site after the foundation had been finished and warned four Negro bricklayers from Chattanooga not to begin work. The foreman said one of the men told the Negroes, "We won't even allow Negroes to come into Grundy county, much less work here"....Many mine officials and citizens of Palmer said the area would be entirely without quick medical aid in case of a mine disaster or serious illness. An osteopath is at Tracy City, approximately 16 miles away, and the closest hospital is at Sewanee, about 30 miles from Palmer. An elderly physician near-by does little practicing. Dr. Clements, called "Old Doc" by most of the residents, was described as a "competent doctor and good man" by mine officials and citizens. "We want Old Doc back," said many of the people. They were unanimous in saying the Negroes were forbidden to work because of racial discrimination, and not because of any union trouble.

—*Chicago Tribune*, July 9, 1948.

## The Problem of Accident-Prone Drivers

THE reason why insurance companies are reluctant to accept automobile policies for drivers who have a record of previous accidents is adequately demonstrated by the results of a group study completed by the Personnel Research Federation. Four and one-half per cent of the drivers had 30% of the accidents—seven times their quota. In another group, 800 drivers had 4,000 accidents—an average of five per driver; 400 had 3,200 accidents—eight per driver, and 800 had 10,800 accidents—or 13½ per driver! One hundred drivers who had accidentally killed one person each had previously killed three, and had had 38 other accidents. One Connecticut study showed that 4% of the drivers were responsible for 36% of all accidents. The police chief of Oakland, Cal., Robert P. Tracy, says that some drivers reach the traffic court as many as 20 and, in some cases, 30 times. Of 22,800 drivers arrested in the first six months of 1945, 46.6% had previously received citations. Of the 10,625 repeating violators, 4,011 were arrested for the second time; 2,197 for the third time; 1,307 for the fourth; 949 for the fifth time; and 2,101 for the sixth time or more. These 10,625 repeaters were responsible for a total of 37,432 violations in a little over five years.

—*The Casualty Insurer*, quoted in *Management Review*, July, 1948.

## Textile Mills Health Plan

A UNIQUE public health program conducted jointly by the Spalding County Health Department and a group of textile mills centered around Griffin, is achieving such excellent results that the procedure promises to become standard for industrial areas all over the South....Put into effect in November, 1947, after months of planning with state health experts and textile mill executives, the program calls for registered nurses to be employed by the local Health Department and assigned to work in the mills. The industries contribute their proportionate share of the nurses' salaries to the Health Department budget. For a part of the day, the nurses serve strictly in an industrial capacity. At the various mills, they conduct certain pre-employment examination procedures, administer vaccines, handle first aid cases and give medicines, all under written standing orders signed by a physician. During the remainder of their working time, the nurses function in regular public health activities. They call at the homes of the sick, make blood tests in venereal disease control, assist in taking x-rays to determine possibility of tuberculosis, give pre-natal care, conduct well-baby clinics and aid in school hygiene. At all times the nurses work under the direct supervision of the Spalding County Health Department, and they administer medicines and treatments only on the prescription of family doctors. The program has the full endorsement of physicians, for the Spalding County Medical Society approved all phases of the plan before it was put into effect. —*Griffin, Georgia, News*, July 3, 1948.

## Mississippi Valley Medical Society

THE 13th Annual Meeting, Mississippi Valley Medical Society, will be held at the Abraham-Lincoln Hotel, Springfield, Ill., September 29, 30, October 1, under the Presidency of Dr. Willard O. Thompson, Professor of Medicine, University of Illinois College of Medicine. Over 25 clinical teachers from the leading medical schools will conduct this post-graduate assembly, whose entire program is planned to appeal to general practitioners. There will be some 40 scientific and technical exhibits, noon round-table luncheons, clinico-pathologic conference, banquet preceded by a social hour, etc. No registration fee will be charged and every ethical physician is cordially invited and urged to attend. The entire program and all exhibits will be held in the Abraham-Lincoln Hotel. A detailed program may be obtained from the Secretary, Harold Swanberg, M.D., 209-224 W.C.U. Bldg., Quincy, Illinois.

## Health Center for Hotel Employees

NEW YORK Hotel Trades Council and the Hotel Association of New York City have announced jointly that the property of the Y.W.C.A. at Fiftieth Street and Tenth Avenue has been bought for a new health center. When the buildings are modernized and equipped they will represent an investment of $1,000,000. Remodeling is expected to start in August. "Added to our established insurance benefits," Jay Rubin, president of the council, said, "the center gives us a well-rounded program unique in the hotel industry." Thirty thousand union employees of 150 hotels are scheduled to receive free treatment at the center. Among the services will be general medical specialist care, laboratory and diagnostic procedures, periodic health examinations, immunizations and other disease prevention measures. Treatment of workmen's compensation cases will not be included. Money for purchasing, remodeling, equipping and maintaining the property and its staff will be provided by the hotel operators. This is an extension of the benefit program started in 1946, when a fund was established to provide life insurance and weekly sickness and accident benefits for employees and hospitalization for employees and their families. A joint association-council board of directors will govern the center, with medical supervision under licensed physicians. The director and staff will be chosen by the board.

*New York Times*, June 21, 1948.

## Histoplasmosis

OF IMMEDIATE significance to industrial medicine, and of concern to medicine generally, is the development of a positive skin test for the recognition of histoplasmosis, a fungus killer the lesions of which bear striking resemblance to tuberculosis. Martin Gumpert, physician and medical writer, discussing histoplasmosis in the curent issue of *Scientific American* says the symptoms include fever, loss of appetite, anemia and resemble those of many childhood diseases. Yet, those afflicted appear uncommonly sick. Until 1944 medical literature recorded only 80 cases of histoplasmosis, according to Dr. Gumpert, and all of them proved fatal. But that year Dr. Amos Christie, of the staff of Vanderbilt University, perfected a skin test employing an antigen made from a culture of Histoplasma capsulatum, the infection causing fungus, and almost at once concluded that many cases previously diagnosed as tubercular were, in fact, attributable to the deadly fungus. One mass examination in the South in 1938 disclosed almost as many chest lesions among patients who reacted negatively to the tuberculin test as among those who reacted positively, a disclosure which may well intensify interest in the diagnostic results of mass x-ray programs currently under way in almost all of the larger and many smaller companies. Although little is known

about this fungus, two varieties appear in nature; one harmless, the other parasitic and responsible for causing histoplasmosis in man. The parasitic type is believed to be insect-borne. But the method by which the disease is spread is unknown; present medical opinion indicates that it is probably a droplet infection which attacks man through the respiratory system. Hence, it would appear that effective air conditioning might well retard its spread. Industries situated in the central states appear particularly vulnerable. According to Dr. Gumpert, the principal histoplasmosis centers are Missouri, Ohio, Indiana, Illinois, Arkansas and Louisiana. In addition, Dr. Gumpert states that the disease seems more prevalent among adults than among children. A study in Kansas City, Missouri, showed that the highest incidence of positive reactions to the test (88%) occurred in the group of men aged 35 to 45; among women the highest incidence (67%) was in the age group from 20 to 24. Although no cure is known for the parasitic variety, the acute form of the disease responds to treatment and unless the plant doctor is on the alert he may easily diagnose it as simple grippe.

## Safety Program Aligned with Medical Department

THE keystone of the New York Telephone Company's safety program, which has one of the most effective records in the nation, is the Bell Telephone creed, which reads: "No job is so important and no service so urgent that we cannot take time to perform our work safely." Because of the nature of their working conditions, which run the gamut from street manholes to plushy skyscraper offices, and back again, "Tel's" employees more often work alone and thus literally are their own safety supervisors. So, major importance is placed upon safety as part of the job, with the foreman in a key position to emphasize it constantly. The safety program includes such items as educational lectures, visual aids, and continued training and conferences in close coordination with the medical department. So important is the safety factor, that whenever they are appropriate, safe working specifications and practices are incorporated into the working plans prepared for particular jobs. JOHN COST, a graduate electrical engineer, coordinates the safety program for approximately 7500 Manhattan Plant employees. No stranger to the economic advantage of "safety first," COST has had 18 years' service with N. Y. "Tel," 10 years in safety work. He confers almost daily with DR. NORMAN PLUMMER, medical director, or his assistants. "When you consider that 90% of all industrial accidents are due to human frailties, then you realize how important it is to maintain a close working relationship with the medical department," COST says. "Our doctors should be kept informed of the kinds of jobs that are being done, and in turn we should be kept informed of their problems, particularly in the realm of compensations. It is a dual operation that makes for a better safety record for the company." Though New York Telephone's employees follow standard safety practices, and use standard tools, the rules governing their use are flexible enough to permit changes and adaptations to local conditions, subject to proper recommendation and discussion in higher management echelons. The company's safety "bible" is a unque, leatherette-bound, loose-leaf Safety Code containing such subjects as "General and Safety Precautions," "Tools and Materials," "Motor Vehicles," "Health and Recreation Suggestions" and hundreds of others, among them "Christmas Decorations," "Dogs," "Firearms," "Horseplay," and "Toys." Employees in duties where physical fitness has a direct bearing on safety, are subject to a regular medical examination by company doctors. The company is high on the safety performance list in the communications industry, which has the best accident frequency record in the industrial field. Commenting on New York Telephone's program, DR. ANTHONY J. LANZA, Chairman, Institute of Industrial Medicine, New York University-Bellevue Medical Center, said: "This is an excellent example of the essential advantage of coordination between medicine and engineering in planning and conducting any program of health and safety in industry. It is evident that the New York Telephone Company has a full appreciation of the gains that can be made in having the industrial physician and the industrial engineer work in close relationship."

—*Health on the Job*, published by the Institute of Industrial and Social Medicine, June, 1948.

## Significance of Pre-Employment Examinations

THE number of employers who require physical examination of applicants for work is steadily increasing. Problems have arisen in that connection which are of economic importance and of equal interest to the medical profession. It might appear that the basic idea in the average examination program is to procure healthy employees and consequently an increase in production but when the steps in the development of the average industrial health plan of today are studied a different viewpoint may be obtained. The results of examinations designed to eliminate applicants for employment who have physical defects have seldom been entirely satisfactory. In industry the use of time and labor-saving machinery had the effect of removing emphasis from strength and endurance to factors such as talent and adaptability. There remained only limited fields where the capacity of the strong was always greater than the weak and that employers were still desirous of having an accurate knowledeg of the physical condition of their employees was explained by their need for protection against unwarranted claims for disability. The problem of hernia was one of the first to become of medicolegal importance. The avoidance of claims for this one ailment often made physical examinations valuable and there have been times when all that certain employers required was to make an examination for that condition. The scope of the examinations nevertheless increased as newer types of claims were devised. The condition of a workman's back rapidly became a focus of attention and a limited number of employers found it advantageous to obtain x-ray films of prospective employees' spines. The presence of narrowed vertebral bodies, obliterated intervertebral spaces, divided transverse processes, arthritic spurs and every other type of spinal lesion has been the subject of legal dispute and the advantage of recording their presence at the time of employment became clearly apparent. The occupational disease laws played a further important role in attracting the attention of the employer to the physical condition of his employees. It was largely because of these laws that x-ray examination of the chest first gained favor. Numerous applications have been filed seeking recovery for damage resulting from pneumoconiosis when other

chest lesions of long standing were all that could be found. It is in these conditions that films made of the chest at time of employment and at intervels thereafter have proved invaluable. Among laboratory procedures, in addition to the x-ray examination and simple urinalysis, the serological test gained greatest popularity. Efforts of public health authorities were largely responsible for the numerous blood tests made and contrary to the intentions of either the health departments or the medical profession the findings became a factor in determining the employee's position as a so-called occupational risk. It must be admitted that the advantages to the employee of the various types of examination came as side effects and it must be conceded that extensive facilities which are now devoted to industrial health are not entirely a realization of original plans. Economic questions which arise as the result of appraisal by the employer of his employee's health are possibly more numerous than important. The various problems of ethics which arise in this connection can be similarly classified. The most frequently presented question is with reference to the man who is rejected for employment because of one or more physical defects. This situation can easily be pictured as a hardship and can be readily dramatized. The fact is that the majority of such defectives can find work even though they may not be hired by the firm with whom they are most desirous of obtaining employment. The trend of present day thought offers a different solution to this problem and where applicable it represents great advancement in human relations. The term pre-placement examination is frequently substituted for pre-employment examination with the intention that within reasonable limits every man should work and that the examination should merely appraise his physical capacity and to some extent his aptitudes. The extent to which the pre-placement type of examination has been accepted is not great. The notable exception is in the case of the disabled war veteran. Other defectives are hired by numerous firms as a matter of policy and at times very profitably but the number of companies who can afford this risk is *very* few. A very lenient attitude on the part of industrial boards is blamed by some for the strict rulings of many employers and it is very possible that this factor is responsible for keeping many individuals from desirable places in industry. The inelasticity of wage rates in many industries which are under the control of unions also acts as a deterrent to the hiring of the type of handicapped individuals whose production would be below average. Within the medical profession difference of opinion of the workman's doctor and the company examiner is possibly the greatest source of controversy. Rejected applicants frequently reappear to employment managers with a note from their family physician declaring that they are free from physical defects or that those which are demonstrable are not disabling. There is conceivably a tendency in this connection to permit the desires of the patient to be reflected in the doctor's decision even though the content of his statement be entirely true. Conversely the physician engaged by the employer may be too strict in his interpretations of potential claims for disability, absenteeism and possible hazards. The pre-placement type of examination offers a solution to such controversies.

—*Illinois Medical Journal*, July, 1948.

# LETTERS

## "To Keep the Record Straight"

TO THE EDITOR: Apparently our letter of April 5, 1948, was misleading since it resulted in the announcement in the May, 1948, issue of INDUSTRIAL MEDICINE that DR. PAUL B. VAN DYKE had been appointed Assistant Medical Director. Actually, we are very proud to have DR. VAN DYKE as a full-time member of our medical staff, but the position of Assistant Medical Director has been filled by DR. GLENN S. EVERTS who was selected to join our staff in that capacity June 1, 1948. DR. EVERTS has been specializing in the field of industrial medicine since 1926, having developed industrial medicine services for 34 smaller plants in the Philadelphia area; with The Curtis Publishing Company he has joined in the planning of an expanded health education and medical program for over 7,000 employees. If you feel that DR. EVERT'S appointment is newsworthy and should be noted in your publication, we will appreciate the handling of it in such a way that embarrassment to anyone concerned may be avoided in view of the previous announcement which was published.

—FORD F. ROBINSON,
Assistant Secretary.

TO THE EDITOR: On page 20 of the "Comment and Opinion" section of the June 1948 issue of INDUSTRIAL MEDICINE, there is an item, titled "Fire Extinguishers," which appeared originally in the *New York Post* of May 13. It is an account of the testimony of DR. HENRY FIELD SMYTH before the New York State Public Service Commission on the use of vaporizing liquid (or so-called carbon tetrachloride) fire extinguishers in railroad cars. Unfortunately, the item as it appeared in the *Post* was garbled. An official transcript of the testimony gives the following:

Asked what would happen chemically if a stream of carbon tetrachloride from a quart-sized extinguisher were used on a fire in the insulation on wires in a railroad car, DR. SMYTH stated:

"You would have the formation of hydrochloric acid gas and some chlorine, maybe, and what else would be formed would depend upon the materials that it came in contact with. If it was a severe fire with intense heat, you might have some phosgene gas, but not enough to be harmful before the hydrochloric acid gives the warning of danger, driving the person away. If they could not get away, if there was an accident or they were injured or anything like that, so that they would suffer serious harm, it would be from the hydrochloric acid and not the phosgene gas, because there wouldn't be enough phosgene gas there."

Another part of the official transcript of the testimony runs:

"Question: Is the use of such an extinguisher in an ordinary fire that would occur in an electric car dangerous, would you say, to the public if it is used in the car while the people are in it?"

"Answer (by DR. SMYTH): No, I would say definitely not."

Perhaps a correction might be published "just to keep the record straight."

—SAFETY RESEARCH INSTITUTE

# INDUSTRIAL MEDICINE

EXECUTIVE, EDITORIAL, AND PUBLICATION OFFICES: 605 NORTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

*Editor:* C. O. SAPPINGTON, M.D., DR. P.H.

*Associate Editors:*

HENRY S. BROWN, M.D. • JAMES T. CASE, M.D., F.A.C.S • JEAN S. FELTON, M.D. • LYDIA G. GIBERSON, M.D.
IRVING GRAY, M.D., F.A.C.P. • EMERY R. HAYHURST, M.D. • EDWARD C. HOLMBLAD, M.D., F.A.C.S
RUTHERFORD T. JOHNSTONE, M.D. • ROBERT T. LEGGE, M.D., F.A.C.S. • CHRISTOPHER LEGGO, M.D.
OSCAR L. LEVIN, M.D. • CAREY P. McCORD, M.D. • WM. D. McNALLY, M.D. • M. N. NEWQUIST, M.D.
OSCAR A. SANDER, M.D. • FREDERICK W. SLOBE, M.D., F.A.C.S.

ESTABLISHED 1932

*Publisher:* A. D. CLOUD

*Volume 17* AUGUST 1948 *Number 8*


## "To Albert Stanley Gray, M. D."

AT THE Spring Meeting of the NEW ENGLAND CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, at Hartford, Connecticut, May 27, the delivery of the paper on "Safety," by EVERETT W. MARTIN (see page 297) was preceded by the reading of the following Distinguished Service Award, presented by the Connecticut Safety Society:

TO: ALBERT STANLEY GRAY, M.D., a true pioneer whose work in this field, and in the improvement, in the field of occupational disease prevention, of the health of the industrial worker has been distinguished by the breadth of his vision and the modesty of his approach. Presented the 3rd day of March, 1948."

## "Each in His Separate Star"

IF BEING a definite name and personality to many thousands outside of their profession, and widely known, often mentioned, extensively quoted and instantly identified as doing important work or holding important positions inside of it, constitutes being in the public eye, then a considerable number of industrial physicians are so much "public men" that they are well within the meaning of the term. Few of them, however, realize this, and fewer, no doubt, would give it a thought one way or another. But the fact remains. ROYD SAYERS and mine safety, ROBERT KEHOE and lead poisoning, LOUIS SCHWARTZ and dermatitis, CAREY McCORD and occupational diseases, OSCAR SANDER and respiratory afflictions, LYLE HAZLETT and education, CARL PETERSON and industrial health, EMERY HAYHURST and industrial hygiene....these are some of them, with their "public" connotations. There are many more. The existence of his "public" as to any of them, is probably nowhere so evident as at such a nerve center of interest as the office of a publication in the field of their work. There—or, speaking for ourselves, *here*—it has been taken for granted for quite some time. Lately, and possibly in part because of the recent publication of our "Who's Who in Industrial Medicine," the fact and extent of their "public" as to some of these men have become so impressive that we are now moved to subject them to one of the hazards "public men" have to face: being written up.

WE ARE aware, of course, that the appraisal of any man while he's living is a careful undertaking. The biographer must know him, but if he's worth appraising he has characteristics that operate against the objectivity so necessary in such a study. The impact of his presence must be duly weighed, lest liking lend its hue to observation. The dividing line between the unfairness of too little praise and the impropriety of too much must be earnestly sought, as the close-up vision—lacking perspective—may hold it too near for clearness. And it must be kept in mind that however remarkable the deeds or forceful the words to be chronicled, the personality greater than either still hovers over both, and so long as that personality may yet perform "some work of noble note," the final picture waits unfolding. Nevertheless, we accept the difficulties and brave the risks. Against the background of the known time that ends with "now," there is plenty in what these men have done and more than plenty in the men themselves to make their stories not only vastly interesting but also of some importance historically. And so our series begins on page 312 of this issue.

THE sketches follow no set pattern. Strictly speaking, they are not intended as biographies, for "biographies," as Mark Twain said, "are but the clothes and buttons of the man." The statistical and chronological data, being generally available in "Who's Who" compilations, are not much stressed. The aim is to "call into one view the capital and distinguished features" of some of the physicians and surgeons who have made

industrial medicine what it is, who have set its standards and charted its course—to portray them in the midst of their work and plans, to examine their beliefs, ideals and philosophies, their reactions to life in general—and to do this while they are living and still carrying the responsibilities which thus far they have so creditably discharged. It has been said that all great music is a form of self revelation. The same is true of great deeds. The deeds, therefore, can be appreciated in terms of those who did them. With this in the present tense, it will not be necessary to invent or ascribe motives to match the accomplishments for which the doers will be remembered.

If there should seem to be any marked similarity as between one sketch and another, it will probably arise from the belief long held by the author to the effect that the opportunity brings forth the man, and that the conjunction of the two at the proper time and with the result of a distinguished and useful career, is more likely an expression of ordered guidance than a happening of chance. Industrial medicine has been peculiarly blessed with "right" men in "right" places.

These "right" men were truly pioneers, in that so often they had practically to *make* their places. One after another—each in his own area and, to a remarkable extent, in his own kind of industry —they entered upon jobs entirely new in concept and opportunity, for the establishment of which there was neither precedent nor blueprint, and for the discharge of which "the stethoscope and the thermometer" were far from adequate equipment. One by one, however, they took the measures of the situations in which they found themselves—in steel and transportation, chemicals, oils, textiles, manufacturing and mining, utilities and merchandising—each studying the hazards, exposures and environments peculiar to his industry, until finally their individual experiences yielded the common denominator which embodies the rules and principles of the specialty of industrial medicine as it is presently understood. Thus, as of now, the galaxy makes a picture, bold and broad and bright. But henceforth the view of this picture will be increasingly of the whole and less of the parts, as the perspective lengthens into the future. It is due these men, therefore, while there is still time, to make permanent record of the fact that the galaxy's brilliance is the sum total of the individual brilliances of the men themselves, each living "the joy of the working, each in his separate star." This consideration transforms the publishing of these sketches from a service to an obligation.

IN BEGINNING this series at this time we have one regret. It is that we could not have started it sooner so that LEROY GARDNER himself might have read what the author would have said about him. In a sense too real to be forgotten, his death last year was "not a single doom"; industrial medicine will keep always fresh the laurel that "in his name lay a moiety of its world."

## Dewey on Socialized Medicine

THE following is from an editorial in *Northwest Medicine* for June, 1948: "At the May 1 meeting GOVERNOR DEWEY, who had arrived in the state only that morning to open his own Oregon campaign, was invited to express his views on compulsory health insurance. His talk was unscheduled but nevertheless DEWEY said he would be 'delighted' to give his views extemporaneously. Promptly he gave the assembled delegates a detailed, factual and analytical talk outlining the 567-page report of New York State's $200,000 study of the entire subject, the conclusion of which he summarized as follows: 'Compulsory, socialized medicine is no good. No variation of it is any good. It has never worked wherever it has been tried; it cannot be done; it never will work. Accordingly, I have spent the last two years of my life knocking down every proposal that anybody has made to regiment the medical profession and the people of America through any program of socialized medicine. By making speeches publicly at every meeting of people who would listen to me on the subject, I have made it clear that we have actually been through this thing, about which it has cost the people of my state $200,000 to find out. I don't want that money wasted. I don't want to run the risk of having happen to the health of our people that which has happened to the health of every group of people which has tried to drag the medical profession down to the socialists' level. You won't drag anything up. You will enlarge the volume of medical care, but you will *utterly* destroy the quality of medical care the minute you try that process. . . .if a thing is evil, the first job is to convince people that it is evil and thoroughly evil and destroys everything that we believe in. This idea which has been shared by the last two occupants of the White House, that you can improve medical care by passing a law, must be stopped.'"

*this time good things come in BIG packages*

# THREE-WAY ITCH RELIEF!

1. FAST
2. INTERMEDIATE
3. PROLONGED

*now in Bulk jars!*

Scoop Dermesthetic Ointment out of the new dispensary jar, right into your own ointment tins—in any amount needed. Keeps itching workers on-the-job, won't stain clothes or skin—and no bandaging is required.

Dermesthetic Ointment—

- ... immediately combats the nagging itch of industrial rashes, poison oak and ivy, and other pruritic conditions.
- ... is *not* a cure, but produces symptomatic relief while the underlying cause is being investigated.
- ... prolongs relief, reducing possible infection from scratching.

Three ingredients account for Dermesthetic Ointment's striking action. First, benzyl alcohol provides quick relief; second, phenol provides intermediate relief; third, benzocaine provides prolonged relief. The bacteriostatic action of benzyl alcohol and phenol—combined with quick, lasting relief from pruritis—helps to avoid possible secondary infection.

Order Dermesthetic Ointment from your pharmacy in either 1 lb. jars or 1⅛ oz. tubes.

**CUTTER LABORATORIES** BERKELEY 1, CALIFORNIA

# INDUSTRIAL HEALTH and DISEASE

## Defense Conference

THE close relation between industrial health problems and national defense was the subject of a special conference held (in Washington) July 7-8, sponsored by the Office of Defense in cooperation with the American Medical Association. No action was taken, nor were any policies recommended by the informally organized group whose members included DRS. R. L. SENSENICH, CARL M. PETERSON and RICHARD L. MEILING, of the American Medical Association. "In the event of another war," said an announcement on the meeting by Secretary of Defense James Forrestal, "the success of an industrial health program, now universally recognized as a vital factor in civil defense, would depend largely on complete coordination of military and civil work in this field. A vast research program to determine what personnel and supplies would be needed and just how much of these are now available must be completed before plans to meet a war emergency can be crystallized. The conference [was] held to integrate further the work of the various interested agencies and to initiate the research that remains to be done." The conferees, during the two-day meeting, heard spokesmen for the following government agencies: Army, Navy, Air Force, Public Health Service, Munitions Board, Office of Civil Defense Planning and National Security Resources Board. Their final afternoon session was held at the Brookings Institution, where they were informed of progress of that organization's investigation of certain health and welfare functions of the Federal government. Others in attendance at the conference were DRS. C. W. CAMALIER, American Dental Association; A. J. LANZA, Metropolitan Life Insurance Co.; HAROLD A. VONACHEN, Caterpillar Tractor Co.; EDWARD C. HOLMBLAD, AMERICAN ASSOCIATION OF INDUSTRIAL PHYSICIANS AND SURGEONS, and TOM HENDRICKS, Council on Medical Service, American Medical Association.

—*J.A.M.A.*, July 17, 1948.

The unique B-D weave combined with Lastex* yarn controls the ACE *Reinforced* (No. 8) elastic bandage, permitting it to stretch just slightly more than twice its length . . . Laboratory tests have shown that this *controlled stretch* of an ACE *Reinforced* elastic bandage gives full support without inhibiting normal circulation.

The ACE *Reinforced* elastic bandage has *ALL* the advantages of rubber elastic bandages, PLUS *controlled stretch.* Lastex yarn is comparatively unaffected by perspiration, oil, grease and solvents that may shorten the life and reduce the therapeutic value of rubber reinforced bandages.

*® U. S. Rubber Co.

**ACE *Reinforced***
**ELASTIC BANDAGE**
***is now available***
***in 6-inch width***

ONLY
B-D
MAKES
ACE
BANDAGES

B-D PRODUCTS
*Made for the Profession*

BECTON, DICKINSON & CO., RUTHERFORD, N. J.


## Licensed to Kill

FOUR states require physicians to report cases of epilepsy so that driving licenses may be revoked. In the *Journal of the American Medical Association* of May 15, 1948, DR. WILLIAM LENNOX of Boston properly points out the unfairness of this situation so long as there are a hundred times more drivers who have "lapses of consciousness which may be chronic" because of alcoholic excess. There seems to be something sacred about alcoholism on the highways, with its known devastation of life. Why this privileged exemption? Perhaps regulation of epileptics will lead to control of alcoholics. What we should like to know is: Was the banning of epileptics done unwittingly, without thought of its indirect effect upon the problem presented by alcoholics, or was it a stroke of profound wisdom, with both goals ultimately in view? In any case, we should take strategic advan-

tage of this opening step. Our present system virtually licenses alcoholics to kill; in their case to drive is to kill, sooner or later; so we seem to say, logically enough, that there is no point to reasonable control and that all resultant mortality should be condoned. Let us strive to change this moronic set-up.

—Editorial, *Medical Times*, July, 1948.

## Don't Let This Happen Here

TO THE EDITOR: During the last seven days, in addition to my ordinary daily work as a country doctor, which means long hours of motoring, visits, and surgery attendances, I have been called upon to issue medical certificates for (1) vacuum flasks, (2) corsets, (3) coal, (4) brassieres, (5) hot-water bottles, (6) elastic stockings, (7) outside shoes, (8) milk, (9) eggs, (10) clothing coupons for expectant mothers, (11) overseas travel, (12) successful vaccination and inoculation, (13) children's family allowance, (14) glucose, (15) Horlicks, (16) brandy, (17) whisky, (18) petrol, and (19) paraffin. Further to this, all my "panel" patients when sick demand a duplicate for their employer if they are employed in any government or municipal work, otherwise they lose some of their sick benefit. My real work—treating the sick—is becoming of secondary importance. Yours faithfully, R. O. T., M.D., Swaffham, Norfolk, England

—Letter in *London Times*, quoted in *Weekly Bulletin*, Jackson County Medical Society, Kansas City, July 10, 1948.

## Automatic Ampule Injector

AMPINS, new product of Strong Cobb & Co., of Cleveland, are a means of giving parenteral injections that meets the need for a fast, safe, aseptic method of administration. The AMPIN is an automatic ampule injector. The material to be injected is sealed into the special drawn ampule under pressure, using an inert gas. When the AMPIN is held in a pencil position (bottoms up), and the tip of the ampule is broken—its neck snapped by bending up the flexible connecting tube between the solution and the needle—the inert gas forces the medication through the needle into the tissue. Just enough pressure is used to accomplish this result. AMPINS are the result of many experiments which began during the Spanish Civil War. There the basic idea was first used for blood transfusions on the battle fields. During World War II it was used for the same purpose by the French authorities and it was officially approved and adopted by the Medical Departments of the United States Forces. It is now available for general use in administering emergency drugs, such as morphine, epinephrine, nikethamide, etc. AMPINS containing other drugs, such as penicillin, will be made available in the near future. A special value of AMPINS is their availability for quick use in emergencies, making them of prime importance to the industrial surgeon. There is nothing to dissolve, nothing to to sterilize, nothing to assemble. The physician is in instant command of a precisely measured dose of medication under ideal aseptic conditions without regard to the external physical situation. Another feature is their importance to the physician who must give group injections; their use is free from any dangers of epidemic diseases involved in multiple dose methods.

### Association of First Aid Squads

AN INTERNATIONAL Association of Rescue and First Aid Squads are being formed and a Planning Committee representing squad members from New Jersey, Virginia, Pennsylvania, Rhode Island, and New York is making arrangements for a first meeting. The objectives of the Association are (1) to advance the science and art of doing rescue work and rendering first aid through the elevation of standards and the encouragement of organization of squads throughout the world; (2) to develop and disseminate improved practices and techniques in this field; (3) to foster cooperation and the exchange of information and experience among squads; (4) to encourage the loyalty of all first aiders to do a good job and their adherence to the highest professional standards of conduct; (5) to stimulate public interest and support of well organized rescue and first aid workers; and (6) to cooperate in, foster and conduct research in first aid and rescue work. The organizational meeting is to be held in Atlantic City, New Jersey, September 19 and 20, 1948, at the Ritz Carlton Hotel. At the same time the American Hospital Association is celebrating its 50th anniversary. The Atlantic City Auditorium will contain approximately 300 exhibitors of hospital equipment and supplies which provides rescue and first aid workers with the unusual opportunity of seeing all available equipment and supplies on the market. For further information write ESTHER MYERS STEPHENSON, R.N., Acting Chairman, Red Bank, New Jersey.


Rx DESITIN OINTMENT

*The External Cod-Liver Oil Therapy*

**USED EFFECTIVELY IN THE TREATMENT OF**

**Wounds, Burns, Ulcers, especially of the Leg, Intertrigo, Eczema, Tropical Ulcer, also in the Care of Infants**

Desitin Ointment contains Cod-Liver Oil, Zinc Oxide, Petrolatum, Lanum and Talcum. The Cod-Liver Oil, subjected to a special treatment which produces *stabilization* of the Vitamins A and D and of the unsaturated fatty acids, forms the active constituent of the Desitin Preparations. The first among cod-liver oil products to possess unlimited keeping qualities, Desitin, in its various combinations, has rapidly gained prominence in all parts of the globe.

Desitin Ointment is absolutely non-irritant; it acts as an antiphlogistic, allays pain and itching; it stimulates granulation, favors epithelialisation and smooth cicatrisation. Under a Desitin dressing, necrotic tissue is quickly cast off; the dressing does not adhere to the wound and may therefore be changed without causing pain and without interfering with granulations already formed; it is not liquefied by the heat of the body nor in any way decomposed by wound secretions, urine, exudation or excrements.

**DESITIN POWDER**

*Indications:* Minor Burns, Exanthema, Dermatitis, Care of Infants, Care of the Feet, Massage and Sport purposes.

Desitin Powder is saturated with cod-liver oil and does not therefore deprive the skin of its natural fat as dusting powders commonly do. Desitin Powder contains Cod-Liver Oil, (with the maximum amounts of Vitamins and unsaturated fatty acids) Zinc Oxide and Talcum.

Professional literature and samples for Physicians' trial will be gladly sent upon request.

*Sole Manufacturer and Distributor in U. S. A.*

DESITIN CHEMICAL COMPANY

70 SHIP STREET PROVIDENCE, RHODE ISLAND


## DR. PILGRIM

ENJOYING very much the visit of H. MARJORIE SIMPSON, R.N., of London, and the discussion of many common problems in industrial medicine and nursing, in Great Britain and America.... AND busy with technical problems including some related to welding and others to dust exposures; and working meantime on different types of papers and manuscripts, and later an inspection with regard to different aspects of a welding problem....AND to the last meeting of the season of the Chicago Section of the AMERICAN INDUSTRIAL HYGIENE ASSOCIATION and counselling with MESSRS. TAYLOR, WALWORTH and BANASH, concerning plans for the election and the fall season; and enjoying the program given by nurses FOYTIK, BURGESON and MONTGOMERY, in which there were many interesting problems presented....AND ENGINEER BERNHARD HELLERN, of Oslo, Norway, came visiting, and talked concerning various aspects of industrial fatigue, of which there now appears to be some investigation concerning the time and motion study phases....AND at the meeting of the Workmen's Compensation Committee of the Council on Industrial Health of the A.M.A. at the Drake Hotel, there conferring with DRS. HUSSEY, PETERSON, KESSLER, SLOBE, OLSON, CURTIN, SPALDING, JOHNSTONE, and MESSRS. HOLLOWAY and FOX; and later enjoying food and drink with a number of these and also with DR. A. J. LANZA, and the informal discussion of many problems....AND thereafter to Navy Pier to register at the annual meeting of the A.M.A., and to see many friends in the exhibits and later in the sectional meetings, including DRS. CASTBERG, SAWYER, HOLMBLAD, MCCONNELL,

RILEY; and thereafter to a meeting of the Committee on Public Relations of the A.A.I.P.&S., in which there were many interesting ideas, especially those of DR. ALAN FLEMING, with reference to doing a good public relations job in selling industrial medicine to the deans of medical schools.... AND enroute to Toronto with MADAME PILGRIM and, shortly after arrival, to the Granite Club for luncheon with DRS. CUNNINGHAM, LYNCH, ROSS, HOOVER, FRANK GRIFFIN, HAROLD CRUICKSHANK, FRED CRUICKSHANK, and HAROLD HARRISON; and later talking informally to the group concerning the certification of industrial medical men; and thence to Ballymena, the country estate of LT.-GOVERNOR and MRS. LAWSON, to meet them and also the President of the Canadian Medical Association, and later on to a reunion dinner of the Class of 1923 of the University of Toronto Medical School at the Roof Garden of the Royal York, here being many a reminiscence of old times and many kindred spirits; and next day to the meetings, appearing in the General Session and talking on "Modern Methods of Health Protection in Industry," and later to the Section on Industrial Medicine and speaking on "Prevailing Practices in Industrial Health Programs"; and meanwhile at luncheon with DOCTOR and MRS. FRANK GRIFFIN and later to a supper party at the home of DR. J. GRANT CUNNINGHAM, meeting many physicians and their wives and enjoying the buffet, and hearing the Louis-Wolcott argument on the radio, and playing piano later in combinations of two, three and four hands....AND enroute from Toronto to Birmingham, Michigan, where enjoying a period of respite with brother BYRON and sister OLGA, what with reading of mystery stories, playing Oklahoma at the Pine Lakes Country Club, driving to the farm; and then back to Chicago and resumption of the routine....AND reading of many advances in the field of scientific medicine and other science, including the dedication of the first hospital heliport at Berkeley, California, provided with a helicopter and ambulance service; the establishment of a bone bank similar to eye banks; the establishment of maximum allowable limits of sound and its control; the discovery of 12th vitamin B; the growing of embryo fragments in experimental animals' eyes; the advances and new treatments in restoring life to dead nerves by the destroying of useless nerves with instruments called neurotripsors; the manufacturing of synthetic sapphires, rubies and emeralds, and the more recent manufacture of valuable synthetic rubber by a rapid method taking only two minutes—all of which seems very progressive when contrasted with a recent statement in which an advertising firm compared so-called "soap opera" scripts with the 23rd Psalm and the Gettysburg Speech, this bringing to mind what has happened to radio and motion pictures, and as to whether television will make the same mistakes or has already made them....AND in discussion with a personnel representative and industrial nurse concerning service plans for the medical department in a new building of a group of 1200 employees and going over these plans with reference to facilities and services.... AND planning for later meetings and journeys, of which more later.


Q. DO YOU KNOW WHAT DERMATOLOGISTS DO *FIRST* IN TREATING ANY INFLAMMATORY CONDITION OF THE SKIN?

A. THEY USE A WET DRESSING...

...and thus are sure to do no harm *eliminating the danger of "overtreatment" dermatitis.*

The wet dressing of choice is DOMEBORO TABS ... a fact substantiated by their widespread acceptance by dermatologists throughout the country and by the hundreds of millions of tablets which have been used with impressive success all over the world by the U.S. Army, Navy, Red Cross, Veteran's Administration, UNRRA and the U.S. Public Health Service.

**DOMEBORO TABS** can aid you, doctor, in reducing absenteeism by promoting *faster healing* because DOMEBORO solution remains in a state of constant ionization, thus rendering it capable of *correcting* variations in the pH values of the skin.

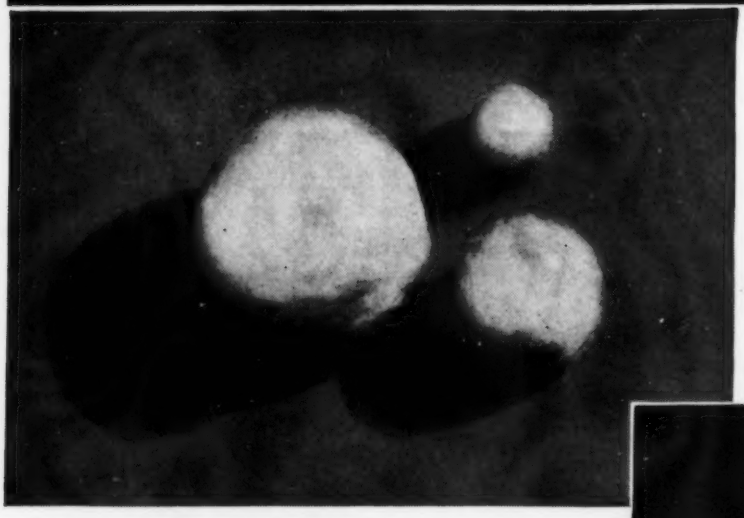
AVAILABLE IN THREE CONVENIENT FORMS
TABLETS
POWDER
OINTMENT

**DOMEBORO**
is the trademark for the patented, modernized form of basic
*ALUMINUM ACETATE*
*BUROW'S SOLUTION*
*(1:20)*

DOMEBORO TABS are listed on page 376 of the "Manual of Dermatology" issued under the auspices of the National Research Council as "BUROW'S SOLUTION—DOMEBORO TABS"

DOME CHEMICALS, INC.
250 EAST 43RD STREET • NEW YORK 17, N. Y.
*Canadian Distributor:* F. J. Whitlow & Co., Ltd., Malton, Ontario, Canada
*Distributor for California, Arizona and Nevada*
Obergfel Bros., 420 S. San Pedro St., Los Angeles

# DEPENDABLE dressings for



**CURITY COTTON BALLS:** Firm, soft, machine-made pledgets in three uniform sizes. Curity cotton balls *hold together when saturated* with alcohol and medications. For swabs, hypo wipes, eye and other treatment. Fill your needs from these three convenient sizes: Small, Medium, Large. (½ *actual size*)

**CURITY STERILE LISCO* PADS:** Cotton-and-gauze sponges, containing Densor compressed cotton for greater absorbency. Provide cleaner, safer wound care, yet cost less than Curity Sterile Gauze Pads.

**CURITY STERILE GAUZE PADS:** Highly absorbent, uniform pads—lintless, with all raw edges infolded. Six standard sizes eliminate the waste and time lost in making pads by hand.

*Reg. U. S. Pat. Off.

**CURITY READY-CUT ADHESIVE:** Each can contains 12" x 10 yds. cut into standard sizes, in Regular and Wet-Pruf, for quick, convenient taping. Firm adhesion, with minimum "creep," minimal irritation. Can be used with an adhesive rack. Saves you precious *time* in a multitude of routine bandaging jobs. Also available on individual spools.

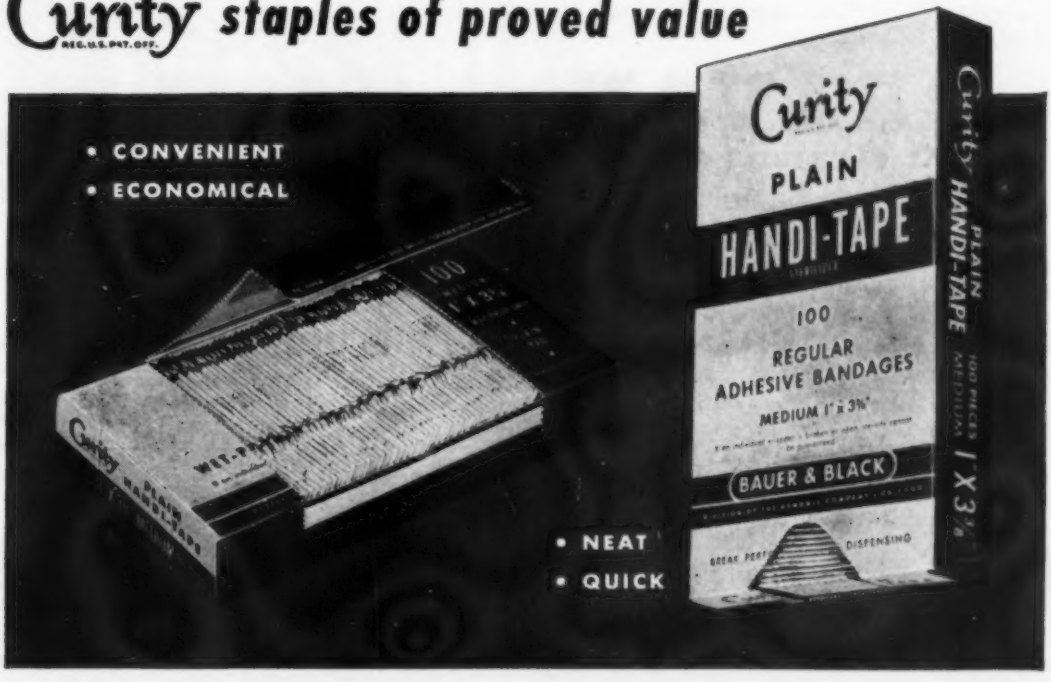
*Products of*

**BAUER & BLACK**

*Division of The Kendall Company, Chicago 16*

# everyday industrial practice

**Curity** *staples of proved value*




# HANDI-TAPE ADHESIVE BANDAGE

## In a New Dispensing box

A new carton for Handi-Tape 100's, is tailored for the needs of the industrial physician. Handi-Tape adhesive bandages are quickly and easily dispensed two ways: the carton may be hung by a small hole in the box and the Handi-Tapes are reached through an opening in the end; or, if Handi-Tapes are stored in a drawer or cabinet, the side opening will keep them at your finger tips.

Curity Handi-Tapes satisfy the need in industrial practice for a small sterile dressing always ready for immediate use. Merely by pulling the red thread on the individually wrapped dressing, a completely sterile adhesive bandage is ready to apply over small cuts, scratches, bruises and other abrasions.

Curity Handi-Tapes are practical and inexpensive. They are available in 1" and ¾" widths. The 1" size is offered in either Regular or Wet-Pruf adhesive backing; the ¾" size is available in Regular backing only. 100 Handi-Tapes per carton.

Ask your Bauer & Black representative about Handi-Tapes or the other dressings featured here.

**Curity**
REG. U.S. PAT. OFF.

**RESEARCH TO IMPROVE TECHNIC...TO REDUCE COST**

## do something about Cold Sequelae *before* infection develops

The best time to fight the sequelae of the common cold is *before* the susceptible worker has succumbed to the debilitating effects of its secondary invaders.

# ORAVAX®

**ORAL BACTERIAL VACCINE**

The many industrial physicians who have used Oravax year after year appreciate the wide range of protection it provides against this secondary invasion. They recognize that, while some individuals do not respond to respiratory vaccines of any type, Oravax has demonstrated—in a high percentage of reported cases—an important measure of protection against the secondary invaders included in the formula.

These results suggest the desirability of a thorough trial of Oravax among the personnel under *your* care. Let us tell you about the surprisingly low cost and the free material to help you present and administer the program.

**Each small enteric-coated tablet contains 60 billion killed organisms *plus* the soluble (ecto-) antigens from 8,625 million.**

**THE WM. S. MERRELL COMPANY • CINCINNATI, U. S. A.**

MERRELL 1828

# "MOIST HEAT"

**FOR**

## Pain, Swelling, Soreness

In the treatment of boils or other localized infections where "Moist Heat" is indicated, the "Moist Heat" of ANTIPHLOGISTINE helps relieve pain, swelling, and soreness.

Applied comfortably hot, ANTIPHLOGISTINE supplies "Moist Heat" for several hours. ANTIPHLOGISTINE may be used with chemotherapy.

The "Moist Heat" of ANTIPHLOGISTINE is also effective in relieving the pain and swelling of a sprain, bruise or similar injury or condition.

Antiphlogistine

*Formula: Chemically pure Glycerine 45.000%, Iodine 0.01%, Boric Acid 0.1%, Salicylic Acid 0.02%, Oil of Wintergreen 0.002%, Oil of Peppermint 0.002%, Oil of Eucalyptus 0.002%, Kaolin Dehydrated 54.864%.*

**The Denver Chemical Mfg. Co., Inc., New York 13, N. Y.**

# aloetherm

newest and finest in

crystal controlled

**short wave diathermy**

New crystal controlled Aloetherm answers all modern requirements for short wave diathermy. The equipment is efficient and practical in design, rugged, precision construction. It is built exclusively for Aloe to Aloe standards. Full type approval No. D-482 has been awarded the Aloetherm by the Federal Communications Commission. Exceptionally handsome appearance. Available for immediate shipment. Backed by our full two year guarantee. Truly quality equipment yet sold at the lowest price on the market. Write for illustrated literature.

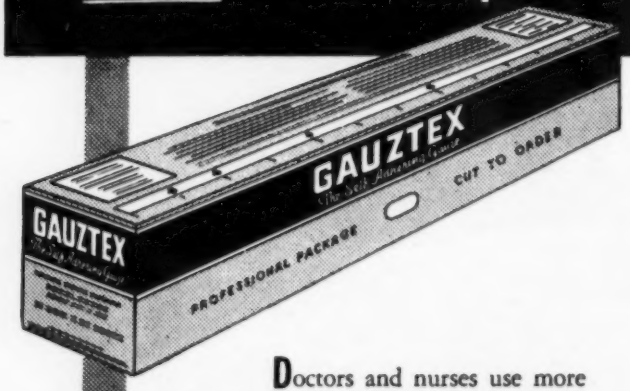
**20F7300—Aloetherm Crystal Controlled Short Wave Diathermy** complete with Electromagnetic Treatment Drum, Electromagnetic Inductance Cable with Spacers, Flexible Arm, and Line Cord.....$595.00

A. S. aloe COMPANY *Serving the Profession Since 1860*

1831 Olive Street • St. Louis 3, Missouri

# Doctors and Nurses Stick to GAUZTEX

## . . . the bandage that doesn't stick to the patient




Doctors and nurses use more Gauztex than any other brand of cohesive gauze. They know that Gauztex means highest standards of manufacture, unsurpassed quality of product.

Gauztex is ideal for all wrap-around bandaging of hands, arms, legs, fingers, and feet. Applies more easily than tape . . . holds fast . . . yet comes off without painful pulling, leaves no sticky adhesive on sensitive skin or hair.

And the Gauztex 12 in. x 10 yd. Professional Package is cut to your individual order . . . in the exact widths you need for your particular problems. Made in two styles—Gauztex Regular and Gauztex Oil Resistant. Professional samples available upon request.

*Your regular dealer can supply your requirements promptly*

# GAUZTEX

**THE SELF-ADHERING GAUZE**

**GENERAL BANDAGES, INC.**
531 Plymouth Court Chicago 5, Ill.

---

# Every { PHYSICIAN / DENTIST / and NURSE

## should read this IMPORTANT STERILIZER BOOKLET

**Have you received your FREE COPY from your DEALER-SALESMAN?**

This booklet "How To Buy A Sterilizer" is the important booklet on office sterilizers. In a concise, easy-to-read style, it gives impartial, factual answers to the questions most commonly asked by physicians and dentists when they think about a sterilizer.

You can get your free copy from your dealer-salesman. Ask him next time he calls. It's free. . . .and no obligation. Wilmot Castle Co., 1161 University Ave., Rochester 7, N. Y.

# Castle LIGHTS AND STERILIZERS

# HAY FEVER *relief* day and night...

The extra long action of Neo-Synephrine hydrochloride makes possible control of hay fever symptoms with infrequent dosage, thus enabling the patient to be comfortable during the day and obtain sleep at night.

Average dose: 2 or 3 drops in each nostril.

No appreciable interference with ciliary action. Virtually no side reactions.

FOR NASAL USE: ¼% solution (plain and aromatic), 1 oz. bottles; 1% solution, 1 oz. bottles; ½% water soluble jelly, ⅝ oz. tubes.

FOR OPHTHALMIC USE: ⅛% low surface tension, aqueous solution, isotonic with tears, 15 cc. bottles.

NEO-SYNEPHRINE®
HYDROCHLORIDE
Brand of phenylephrine hydrochloride

Winthrop-Stearns INC.
NEW YORK 13, N. Y. WINDSOR, ONT.

Neo-Synephrine, trademark reg. U.S. & Canada

Reduce Absenteeism—
Combat Functional

# DYSMENORRHEA

Two Ways

1. Analgesia of the cramp-like pains.
2. Relaxation of Uterine Smooth Muscle Spasm—a frequent cause of such pain.

Now Used In Many Leading Industries

For happier, more comfortable, *more productive* hours for your girls, suggest Hillman's D Compound. Used in industry since 1930. Send for generous Trial Supply for your First Aid Room.

*Hillman's* D *Compound*

--MAIL FOR FREE SAMPLES--

Hillman Pharmaceutical Co. IM 8-48
6300 N. Western Ave., Chicago 45, Ill.

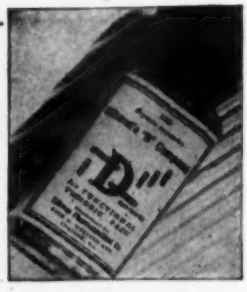
Please send FREE samples D Compound for our trial.

Name_____ M.D.

Name of Plant_____

Address_____

City and Zone_____ State_____



ANTISEPTIC-ANALGESIC

# FOILLE

EMULSION-OINTMENT

## *RELIEVES PAIN*

caused by

BURNS and other NON-SYSTEMIC SURFACE INJURIES

*Samples and Literature on request*

CARBISULPHOIL COMPANY
3116 Swiss Ave. Dallas, Texas

# For BURNS, ABRASIONS and SURFACE WOUNDS

# VISIBAND

## ...The New-Type Dressing ...

STERILIZED
TRANSPARENT
NON-ABSORBING
NON-ADHERING

***VISIBAND*** is an entirely new idea in bandages . . . a transparent, non-adhering dressing for use in the treatment of burns and abrasions, and used for skin grafts or any surface wound. ***VISIBAND*** consists of two strips of specially prepared, sterilized cellophane film. One strip, used as the base for medication, is perforated; the other strip is plain. The ease and simplicity of application is illustrated at the left. Simple bandages hold ***VISIBAND*** in place.

1 . . . medication applied to **perforated** *Visiband.*

2 . . . place over injured area . . . medicated side UP.

3 . . . apply **unperforated** *Visiband* over medication.

- ***VISIBAND*** is non-adhering . . . is removed without pain or discomfort.
- ***VISIBAND*** is transparent . . . permits inspection of wound without removal of dressing.
- ***VISIBAND*** provides germ-proof housing over any desired area.
- ***VISIBAND*** is economical . . . requires less medication than other types of bandage due to non-absorbency.
- ***VISIBAND*** serves to prolong the effective period of medication, which melts with body heat and flows through the small holes in the perforated strip.
- ***VISIBAND*** is quicker to apply . . . requires less frequent changes than other dressings.

In sterilized individually sealed envelopes. $2.25 per box of 1 dozen.

SOLE DISTRIBUTORS

THE QUICAP COMPANY, INC.
Dept. C8, 233 Broadway, New York 7

# BRECK

## Hand Cleaner

A mild hand cleanser will help prevent the reappearance of many skin problems. Breck Hand Cleaner was designed as a gentle and thorough cleanser to remove oil, grease, paint, and other skin irritants from the hands. It is a bland non-irritating cleaner without soap or abrasive materials. Breck Hand Cleaner may also be used on the face and arms.

JOHN H BRECK INC • MANUFACTURING CHEMISTS • SPRINGFIELD 3 • MASSACHUSETTS
CANADIAN ADDRESS • 310 SLATER STREET • OTTAWA

# Use the SAFEST antihistaminic first . . .

# Neohetramine

**"Clinically, Neohetramine has an advantage over all other antihistaminics investigated, in that it is *extremely well tolerated*, and may often be used successfully in patients who are unable to take other drugs of this series because of unpleasant side actions."**

*—Friedlaender, S., and A. S. Friedlaender, American College of Physicians, Milwaukee, 15 Nov. 1947.*

Neohetramine is by far the safest antihistaminic. It maintains a high average of effectiveness and causes the fewest side reactions. Only 1 per cent of 1000 patients had to discontinue treatment.

Trial-and-error is the watchword in prescribing antiallergic drugs. Idiosyncrasies of the patient make it difficult to foresee which antihistaminic will afford the greatest symptomatic relief—or cause the lowest incidence of side effects.

Therefore, try the *safest* antihistaminic *first.*

***Dosage:* 50 to 100 mg. three or four times a day, preferably after meals and at bedtime.**

## Neohetramine

TRADEMARK

**BRAND OF THONZYLAMINE HYDROCHLORIDE**

**N, N-dimethyl-N'-p-methoxybenzyl-N'-(2-pyrimidyl) ethylenediamine monohydrochloride, made by Nepera Chemical Co., Inc.**

**TABLETS—25, 50, and 100 mg. In bottles of 100 and 1000**
**SYRUP—In pint bottles**

DISTRIBUTED BY

**WYETH INCORPORATED • PHILADELPHIA 3, PA.** Wyeth

Authorized Camp Service
CAMP
Scientific Supports

# HEADQUARTERS

Wherever the Authorized Camp Service sign appears, you can depend upon the dealer as the "Headquarters" for Camp Anatomical Supports in that community. Whether it be a special Camp Department in one of the large metropolitan department stores, or whether it be a small neighborhood store, specialty shop or surgical supply dealer anywhere in the world – you can send your patients there with complete confidence in two things: (1) Your prescriptions will be carefully executed by expert fitters trained by the Camp organization to fill such prescriptions; and (2) there will always be (with rare exceptions) adequate stock on hand to fill your order *immediately*.

Merchants find it is good business to be thus equipped to render this service to their customers – quickly, intelligently and accurately – as you, the doctor, demand it. And doctors find it often saves their patients days and weeks of unnecessary pain and discomfort to send them directly to "Headquarters" for their anatomical support. Camp Supports, of course, are sold and fitted *only* through reputable stores – they are never sold by door-to-door canvassers.

**S. H. CAMP AND COMPANY**

**JACKSON, MICHIGAN**

*World's Largest Manufacturers of Scientific Supports*

Offices in New York • Chicago • Windsor, Ontario • London, England

# A Wise Foundation for the Day's Nutrition Planning

That wise and judicious planning of breakfast is desirable is evident from the large numbers of persons who skimp or skip this important meal entirely. As an aid in formulating a better breakfast, a sound basic breakfast pattern, consisting of fruit, cereal, milk, bread and butter, has been widely endorsed, and may well serve as the foundation for the day's nutrition planning.

This basic breakfast pattern provides a well balanced assortment of essential nutrients. It supplies adequate amounts of B-complex vitamins for utilization of its carbohydrate, significant amounts of biologically complete proteins, and essential minerals. In addition, it is outstanding in its economy—it can be prepared in most communities at a cost of but 15 cents.

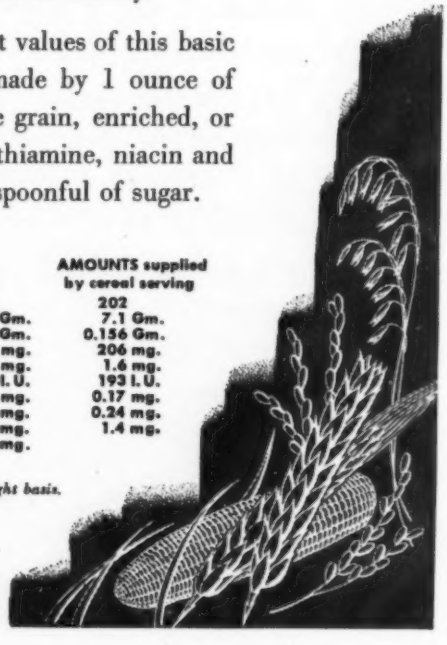
The cereal serving—hot or ready-to-eat breakfast cereal, milk, and sugar—is an attractive main dish of this breakfast. It too provides noteworthy economy as well as taste appeal and almost endless variety.

The table indicates the nutrient values of this basic breakfast and the contribution made by 1 ounce of ready-to-eat or hot cereal* (whole grain, enriched, or restored to whole grain values of thiamine, niacin and iron), 4 ounces of milk and 1 teaspoonful of sugar.

*The presence of this seal indicates that all nutritional statements in this advertisement have been found acceptable by the Council on Foods and Nutrition of the American Medical Association.*

| BASIC BREAKFAST | TOTALS supplied by Basic Breakfast | AMOUNTS supplied by cereal serving |
|---|---|---|
| Orange juice, 4 oz.; | | |
| Ready-to-eat or Hot Cereal, 1 oz.; | CALORIES..... 611 | 202 |
| Whole Milk, 4 oz.; | PROTEIN..... 20.7 Gm. | 7.1 Gm. |
| Sugar, 1 teaspoon; | CALCIUM.....0.465 Gm. | 0.156 Gm. |
| Toast (enriched, white), 2 slices; | PHOSPHORUS .... 488 mg. | 206 mg. |
| Butter, 5 Gm. (about 1 teaspoon); | IRON ..... 3 mg. | 1.6 mg. |
| Whole Milk, 8 oz. | VITAMIN A ..... 1074 I.U. | 193 I.U. |
| | THIAMINE..... 0.52 mg. | 0.17 mg. |
| | RIBOFLAVIN..... 0.87 mg. | 0.24 mg. |
| | NIACIN ..... 2.3 mg. | 1.4 mg. |
| | ASCORBIC ACID .. 64.8 mg. | |

**Composite average of all breakfast cereals on dry weight basis.*



CEREAL INSTITUTE, INC.

A research and educational endeavor devoted to the betterment of national nutrition.

135 South La Salle Street • Chicago 3

~~dysmenorrhea~~

In a recent study, Long used Edrisal to control dysmenorrhea in 630 factory workers: **90% reported relief.** Indust. Med. 15:679

In another study, Hindes used Edrisal for dysmenorrhea in approximately 200 office employees: **96% were benefited.** Indust. Med. 15:262

Each Edrisal tablet contains acetylsalicylic acid (2.5 gr.), phenacetin (2.5 gr.), and Benzedrine* Sulfate (2.5 mg.). For samples and full information, write us at 445 Arch St., Philadelphia 5, Pa.

Smith, Kline & French Laboratories, Philadelphia

# Edrisal

**its dual action relieves pain, lifts mood**

*T. M. REG. U.S. PAT. OFF. FOR RACEMIC AMPHETAMINE SULFATE, S.K.F.

# "SMOKE LESS...OR CHANGE TO PHILIP MORRIS"

## *...if smokers are affected by the irritant properties of cigarette smoke*

Sometimes physicians may advise "Don't smoke at all." But even where that is indicated, how many patients will forego the pleasure of smoking?

For such patients, as for *all* smokers, the choice should be the least irritating of cigarettes. Many throat specialists suggest Philip Morris* because they are convinced from published studies**, *as well as their own observations* that Philip Morris alone, of all the leading cigarettes, is by far the least irritating to the sensitive tissues of the nose and throat.

Perhaps you too will find it advisable to suggest to your patients who smoke . . ."Change to Philip Morris."

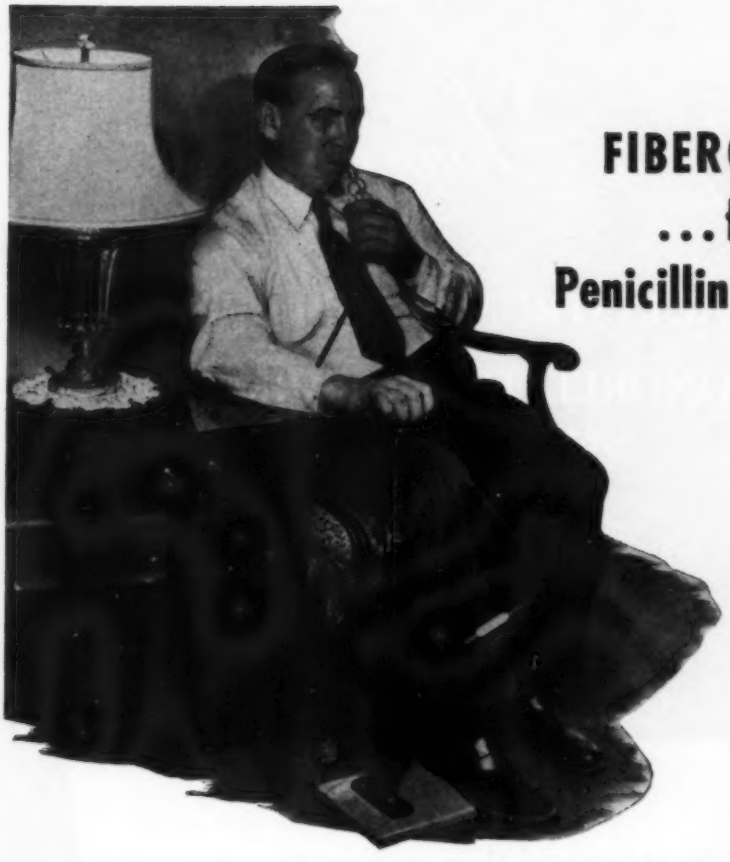
**PHILIP** **MORRIS**



Philip Morris & Co., Ltd., Inc., 119 Fifth Avenue, N. Y.

**IF YOU SMOKE A PIPE** . . . We suggest an unusually fine new blend — COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

***Completely documented evidence on file.**
****Reprints on Request:**
*Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp. Biol. and Med., 1934, 32-241; N. Y. State Journ. Med., Vol. 35, 6-1-25, No. 11, 590-592.*



# FIBERGLAS* FIBERS ...filter air for Penicillin Aerosol Therapy

An inexpensive nebulization pump designed for simplifying penicillin aerosol therapy for home treatment has recently been reported †. A glass vial containing Fiberglas fibers is inserted at the end of the rubber hose of an ordinary bicycle pump and attached to this is a rubber tubing leading to the penicillin nebulizer. The Fiberglas fibers are used to filter the air when the pump is in operation. They help eliminate any foreign matter in the air stream and prevent plugging of the apparatus.

Several applications of standard Fiberglas products are described in the second edition of "Pioneering Uses of Fiberglas Materials in Medicine". Samples and a listing of the medically significant characteristics are also included.

Fiberglas may be helpful in some of your investigations or in solving some of your problems. Write for a copy of this interesting booklet today. Owens-Corning Fiberglas Corporation, Department 2029, Toledo 1, Ohio. Branches in principal cities.

*In Canada: Fiberglas Canada Ltd., Toronto, Ontario.*

†Finke, Walter, M.D., Simplification of penicillin aerosol therapy for home treatment, American Practitioner 1: 643-644, Aug. 1947.

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) for a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.

OWENS-CORNING
FIBERGLAS

# *Quality is Imperative . . .*

## DEMAND SURGICAL INSTRUMENTS BEARING THIS TIME-HONORED TRADEMARK

To the experienced, there can never be a compromise with quality. The skill of the surgeon is predicated to an appreciable extent upon the dependable quality of the instruments at his command. Logically, the superiority of Kny-Scheerer instruments, long traditional among the profession, bears particular emphasis at this time. Quality instruments pay dividends in longer periods of satisfactory service and minimum replacement expense.

•

*Available through leading dealers everywhere*

**KNY-SCHEERER CORPORATION**

183 FIRST AVENUE, AT 28TH STREET · NEW YORK 16, N. Y.

Johnson & Johnson
SUGGESTS
ADAPTIC

*for varicose veins*

As an adjunct to the specific therapy of varicose veins Adaptic Elastic Bandages are particularly useful. They provide evenly distributed physiologic support which relieves venous stagnation and back hydrostatic pressure. Many physicians prefer this product because of its even tension and ease of application for lay use without the danger of circulatory impairment.

The treatment of varicose veins is only one of the many uses for Adaptic. It is excellent for strains and sprains, pressure bandaging of burns, radical mastectomy and other applications.

Adaptic is made of fine, long-staple cotton which stretches without narrowing when wound. Provides a smooth, close-conforming, supporting bandage. This makes it easy for patients to carry out the simpler home applications—saving you unnecessary calls. As the Adaptic can be laundered and reused many times, its over-all cost is comparatively low. Available in 2", 2½", 3" and 4" widths.

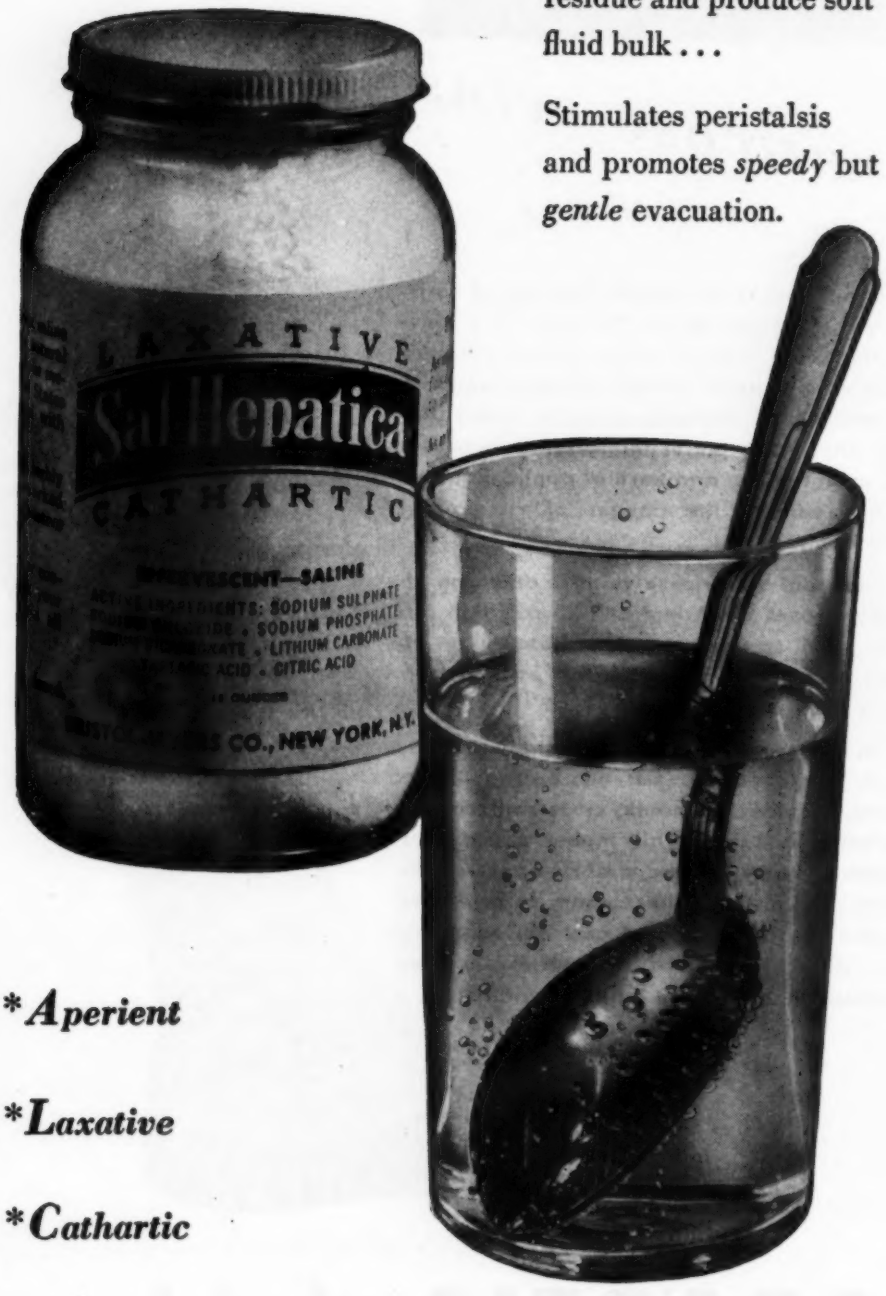
**ADAPTIC—the Johnson & Johnson ELASTIC BANDAGE**

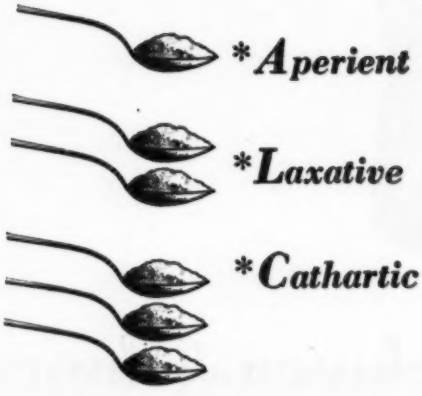
# easy to administer, pleasant to take

# prompt to act

A balanced saline combination which acts by simple osmosis to dilute fecal residue and produce soft fluid bulk . . .

Stimulates peristalsis and promotes *speedy* but *gentle* evacuation.



*Aperient

*Laxative

*Cathartic

*Average dose

*Product of* BRISTOL-MYERS

19 West 50 Street, New York 20, N. Y.

# RIASOL

## for Summer Comfort in PSORIASIS

The hot, sweltering days of summer frequently add to the general discomfort of the psoriasis sufferer. At this season your prescription for RIASOL will be doubly welcome.

RIASOL'S unique formula has met with outstanding success in psoriasis. In most cases the unsightly lesions yield promptly to its effective action and often do not recur for long periods. Itching, if present, is usually alleviated.

Even the most fastidious patient welcomes RIASOL. It is simple and easy to apply, does not stain and no bandages are required.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin, invisible, economical film suffices. After one week, adjust to patient's progress.

RIASOL is ethically promoted. Supplied in 4 and 8 fld. oz. bottles, at pharmacies or direct.

*Generous clinical package on request.*

***Before Use of Riasol***

***After Use of Riasol***

**SHIELD LABORATORIES**
12850 Mansfield Ave.,
Detroit 27, Mich.

Please send me professional literature and generous testing supply of RIASOL

IM 8-48

_____ M.D. _____ Street

City _____ Zone____ State_____

Druggist_____ Address_____

## WATCH FOR YOUR COPY!

**New 64 page booklet on PSORIASIS — The Disease and its Treatment — now being mailed to all physicians.**

RIASOL for PSORIASIS

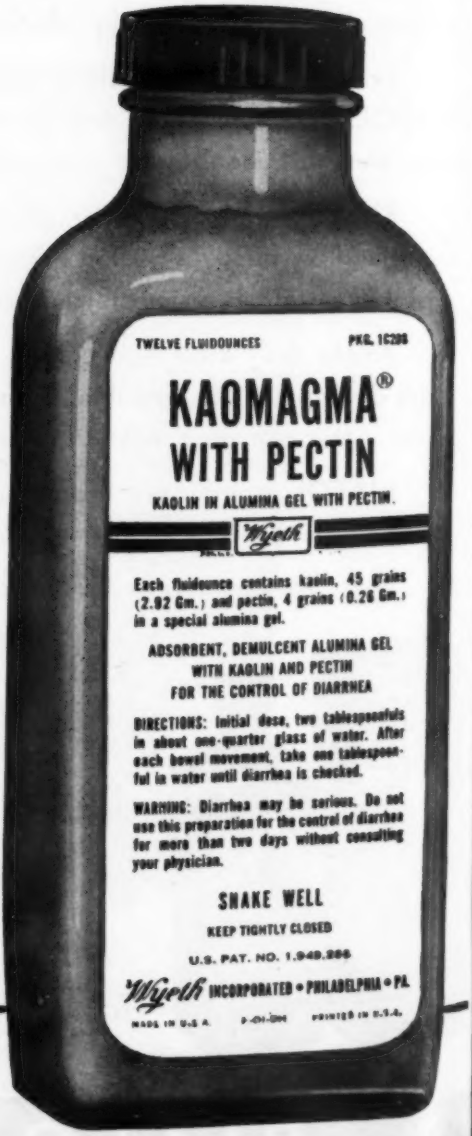
# A New Product for Diarrhea based on Alumina

A practical and singularly effective alumina gel has been developed for its demulcent properties—to soothe and protect intestinal mucosa inflamed during diarrhea.

Other active ingredients are pectin and colloidal kaolin. Since the alumina gel is non-absorbable, it holds the kaolin and pectin in suspension—thereby increasing their effectiveness.

This unique product, Kaomagma with Pectin, quickly controls diarrhea—consolidates liquid stools, checks fluid loss, adsorbs bacteria and their toxins, and restores the patient's comfort.

It is free-flowing and has an entirely new taste especially acceptable to children.


TWELVE FLUIDOUNCES
PKG. 1C205
KAOMAGMA®
WITH PECTIN
KAOLIN IN ALUMINA GEL WITH PECTIN.
Wyeth
Each fluidounce contains kaolin, 45 grains (2.92 Gm.) and pectin, 4 grains (0.26 Gm.) in a special alumina gel.
ADSORBENT, DEMULCENT ALUMINA GEL WITH KAOLIN AND PECTIN FOR THE CONTROL OF DIARRHEA
DIRECTIONS: Initial dose, two tablespoonfuls in about one-quarter glass of water. After each bowel movement, take one tablespoonful in water until diarrhea is checked.
WARNING: Diarrhea may be serious. Do not use this preparation for the control of diarrhea for more than two days without consulting your physician.
SHAKE WELL
KEEP TIGHTLY CLOSED
U.S. PAT. NO. 1,948,286
Wyeth INCORPORATED • PHILADELPHIA • PA.

Wyeth®

PHILADELPHIA 3, PA.

## Advertisers Index


Abbott Laboratories ..... 7
*Thenylene (Antihistaminic)*
A. S. Aloe Company ..... 25
*Aloetherm Crystal Controlled Short Wave Diathermy*
American Meat Institute ..... 14
*Protein Nutrition*
Bauer and Black ..... 22, 23
*Curity Dressings*
Becton, Dickinson and Co. ..... 18
*Ace Reinforced Elastic Bandage*
Breck, John H., Inc. ..... 29
*Breck Hand Cleaner*
Bristol-Myers Company ..... 38
*Sal Hepatica*
Camp, S. H. & Co. ..... 31
*Camp Scientific Supports*
Carbisulphoil Company ..... 28
*Foille*
Cereal Institute, Inc. ..... 32
*Breakfast Nutrients*
Chatham Pharmaceuticals, Inc. ..... 19
*Ultracain Ointment*
Ciba Pharmaceutical Products, Inc. ..... 4th cover
*Coramine*
Cutter Laboratories ..... 17
*Dermesthetic Ointment*
Davis & Geck, Inc. ..... 11
*D & G Tractaclip*
Denver Chemical Mfg. Co., Inc. ..... 24
*Antiphlogistine*
Desitin Chemical Company ..... 20
*Desitin Ointment*
Dome Chemicals, Inc. ..... 21
*Domeboro Tabs*
Eaton Laboratories, Inc. ..... 2nd cover
*Furacin*
General Bandages, Inc. ..... 26
*Gauztex*
General Electric X-Ray Corporation ..... 12, 13
*Model D Inductotherm*
Hillman Pharmaceutical Co. ..... 28
*Hillman's D Compound*
Johnson & Johnson ..... 1
*Band-Aid Adhesive Bandages*
Johnson & Johnson ..... 37
*Adaptic-Elastic Bandage*
Kny-Scheerer Corporation ..... 36
*Surgical Instruments*
Eli Lilly and Company ..... 16
*Estrogenic Therapy*
Merrell, The William S. Company ..... 24
*Oravax Oral Bacterial Vaccine*
Owens-Corning Fiberglas Corp. ..... 35
*Fiberglas Fibers*
Philip Morris & Co., Ltd., Inc. ..... 34
*Philip Morris Cigarettes*
Picker X-Ray Corporation ..... 2
*Picker Century X-Ray Units*
Quicap Company, Inc. ..... 28
*Visiband Dressing*
Schenley Laboratories, Inc. ..... 5
*Titralac*
Shield Laboratories ..... 39
*Riasol*
Smith, Kline and French Laboratories ..... 33
*Edrisal*
Upjohn Company ..... 15
*Zymacaps*
West Disinfecting Co. ..... 3rd cover
*West Protective Cream*
Whittier Laboratories ..... 9
*Ertron, Infron, Bezon, Pendarvon*
Wilmot Castle Company ..... 26
*"How to Buy a Sterilizer"*
Winthrop-Stearns, Inc. ..... 27
*Neo-Synephrine Hydrochloride*
Wyeth, Incorporated ..... 30
*Neohematrine*
Wyeth, Incorporated ..... 40
*Kaomagma with Pectin*



# WHO'S WHO In Industrial Medicine

*A Biographical Dictionary of the Notable Physicians and Surgeons, Hygienists and Dentists in Industrial Medical Practice and Related Activities*

INDUSTRIAL MEDICINE is important work; and it is being done by important men. But who are these men? Here they are. Here will be found the complete and accurate biographical and career data, the industrial affiliations, and the contributions to their field of the notable and important Physicians and Surgeons, Hygienists and Dentists, who are engaged full time, part time, or as consultants, in all the various kinds of medical, surgical and hygiene work which industrial medicine requires of the professions.

—*"Here is Industrial Medicine's Cyclopedia of Talent"*—

*Cloth, 6 x 9, 422 Pages, Price $10.00*

LIMITED EDITION

*INTRODUCTION TO*
## INDUSTRIAL MEDICINE

*Edited by T. Lyle Hazlett, M.D.*

The long awaited Textbook of Industrial Medicine—endorsed by The American Association of Industrial Physicians and Surgeons

CHAPTER
1. Industrial Medicine—*T. Lyle Hazlett, M.D.*
2. An Industrial Medical Department—*T. Lyle Hazlett, M.D.*
3. Minor Injuries—*Harold K. Kuehner, M.D.*
4. Eye Injuries—*Charles F. Kutscher, M.D.*
5. Gases, Vapors, Dusts, Fumes and Mists—*William P. Yant, B.S., D.Sc.*
6. Industrial Dusts—*T. Lyle Hazlett, M.D.*
7. Silicosis—*T. Lyle Hazlett, M.D.*
8. Industrial Exposure to Some Toxic Metals—*Edgar C. Barnes, B.S.*
9. Carbon Monoxide—*Frank Saylor Rossiter, M.D.*
10. Solvents and Volatile Organic Materials—*Henry F. Smyth, Jr., B.S., Ph.D.*
11. Personal Respiratory Protection—*William P. Yant, B.S., D.Sc.*
12. Laboratory Methods—*Palmer L. Beebe, M.D.*
13. Industrial Hygiene Surveys—*Joseph Shilden, M.D.*
14. Electricity—*Charles F. Engel, M.D.*
15. Air Conditioning—*Frank H. Stiening, M.E.*
16. Heat Disease—*Marlin W. Heilman, M.D.*
17. Nutrition in Industry—*Frank M. Gatto, M.D.*
18. Education in Industrial Health—*John R. Conover, M.D.*
19. Medico-Legal—*T. Lyle Hazlett, M.D.*

Price $3:00

## *A Blind Hog's Acorns*

*Vignettes of the Maladies of Workers*

by

CARY P. McCORD, M. D.

The original "whatdunit" story of occupational diseases! A medical detective studies the bizarre gamut of occupations and their effects on health; tells their story in engaging and human narrative; spices his telling with the wisdom of a lifetime search for their causes and long experience with the mental and emotional quirks of those whom they afflict....

*An absorbing and revealing narrative!*
*No. 9 on the year's "100 Books for the Doctor":*
*"...most interesting book I have read in a long time."*

Price $2.75

ORDER FROM
**INDUSTRIAL MEDICINE**
605 North Michigan Ave., Chicago 11, Illinois

# The next time you hear voices —LISTEN!

IT MAY BE your conscience speaking.

It may be saying: "Save some of that money, mister. Your future depends on it!"

**Listen closely next time.** Those are words of wisdom. Your future—and that of your family—*does* depend on the money you put aside in savings.

If you can hear that voice speaking clearly, do this:

Start *now* on the road to *automatic* saving by signing up on your company's Payroll Savings Plan for the purchase of U.S. Savings Bonds.

There's no better, no surer way to save money. Surer because it's automatic . . . better because it pays you back four dollars for every three you invest.

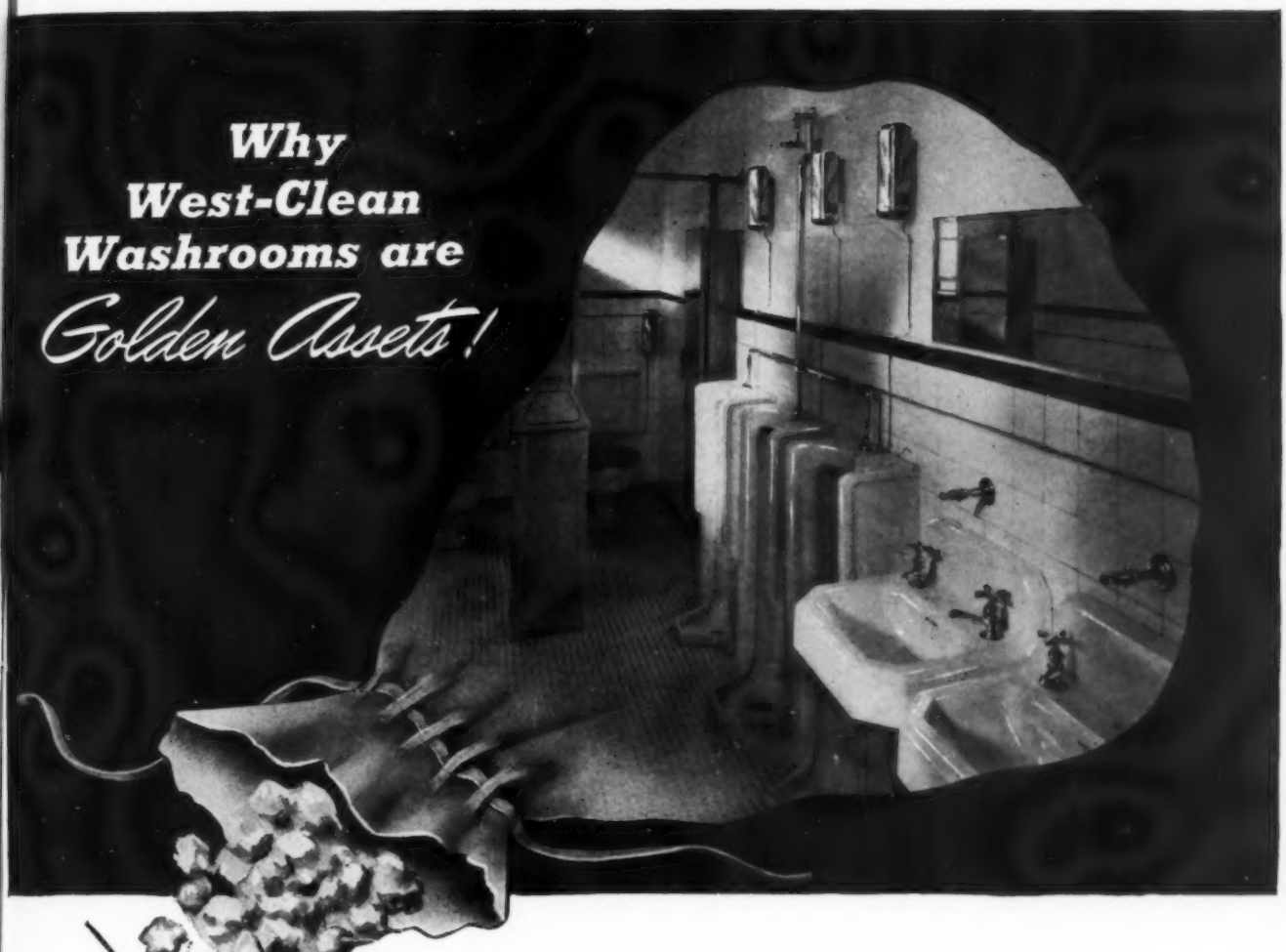
**Do it *now*.** If you can't join the Payroll Savings Plan, tell your banker to enroll you in the Bond-A-Month Plan that enables you to purchase a bond a month through your checking account.

Remember—better *save* than *sorry!*

## Automatic saving is sure saving— U.S. Savings Bonds

***Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service***

# Why West-Clean Washrooms are *Golden Assets!*



One immaculately clean washroom may frequently go a longer way to furthering employe relations than a half dozen "trouble-shooting" conferences. Employe health, loyalty, and heightened operating efficiency always go hand in hand with clean, comfortable working conditions. Before it can pass employe inspection, however, a washroom must be *fully clean — not just half clean!*

Here's where West Washroom Service really "shines." Where your own janitors, due to lack of time and proper equipment, merely scrape the surface of your washroom problem . . . a trained West service man literally gets to the "bottom" of it. By thoroughly cleaning the traps and bowls, he *eradicates* the *hidden* cause of annoying washroom odors.

Periodic, efficient and complete — including installation of a modern method of automatic deodorization — this service is extremely economical. Costs nothing extra with your purchase of necessary West Products.

*Close to 500 trained West Representatives from coast to coast are ready to explain the merits of this superior service in full detail. For a quick solution to your washroom problem, contact us at once.*

A handsomely illustrated brochure is now available upon request. Just fill in the coupon below to discover how your washroom maintenance costs can be greatly reduced — and how you can obtain the Free services of trained West service men.

*PLEASE CLIP TO YOUR BUSINESS LETTERHEAD*

**WEST DISINFECTING Company**

**42-16 WEST ST., LONG ISLAND CITY 1, N. Y.**

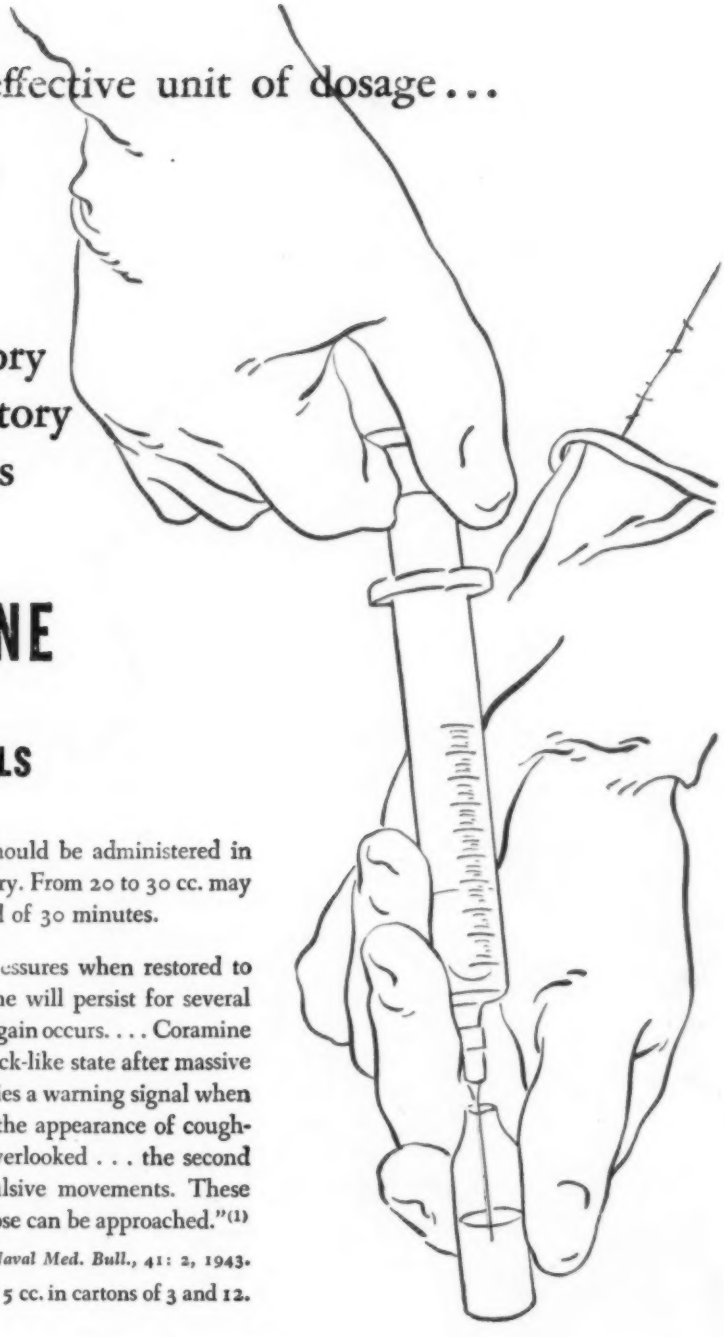
I would like a copy of "An Ideal Washroom Maintenance Service"

NAME_____

POSITION_____

the most effective unit of dosage...

in respiratory
and circulatory
emergencies



# CORAMINE

## 5 CC. AMPULS

At least 5 cc. of Coramine should be administered in emergencies. Repeat as necessary. From 20 to 30 cc. may be given safely within a period of 30 minutes.

"Intramuscular and venous pressures when restored to normal by the use of Coramine will persist for several hours before a gradual decline again occurs. . . . Coramine is a safe agent to use in the shock-like state after massive hemorrhage. . . . The drug carries a warning signal when the injection should cease by the appearance of coughing. If the coughing sign is overlooked . . . the second warning signal is mild convulsive movements. These appear long before the lethal dose can be approached."(1)

1. GUNTHER, L.: *U. S. Naval Med. Bull.*, 41: 2, 1943.

CORAMINE AMPULS of 5 cc. in cartons of 3 and 12.

● CIBA PHARMACEUTICAL PRODUCTS, INC., SUMMIT, N. J.

# Ciba

CORAMINE (brand of nikethamide) Trade Mark Reg. U. S. Pat. Off.

2/1372M